



Account Number

Brokerage Account Application Personal Registrations

Type on screen or fill in using CAPITAL letters and black ink. If you need more room for information or signatures, use a copy of the relevant page.

For Authorized agent/ Advisor Use Only

To provide information on more Authorized agent(s)/Advisor(s), owners, etc., make additional copies of necessary page(s).

Primary Authorized agent/Advisor	DTC Number	G Number
		G
Additional Authorized agent/Advisor		G Number
		G
Additional Authorized agent/Advisor		G Number
		G
Additional Authorized agent/Advisor		G Number
		G
Additional Authorized agent/Advisor		G Number
		G

For Advisor Use Only: ☐ Account referred through Wealth Advisor Solutions program (Use WAS specific G Number in Primary Authorized agent/Advisor G Number field above.)

Optional: Transfer Eligible Assets From or Change Registration of Existing Fidelity Account *Complete if applicable.*

To change the registration of an existing account, by signing and dating this application you acknowledge and agree that the account will be registered as instructed on this account application, and you may be changing your ownership interests in this account. For eligible scenarios, review the *Change of Registration* policies and procedures. If this request cannot be granted, there will be a new account number provided and eligible assets will be transferred. You should confirm if assets in your existing account are eligible for transfer as certain assets may not be eligible for transfer and may be liquidated.

- ☐ **Transfer Eligible Assets from Existing Fidelity Account.*** **OR**
- ☐ **Re-register this account, keeping my same account number, if applicable.†**

Account Number

* Both accounts must have identical registrations.

† You cannot complete a re-registration request online. Once you have filled out the application, print and check the option before signing.

Type of Registration *Check one type only and fill in applicable blanks.*

Consult your Authorized agent(s)/Advisor(s) or state tax officials for information on state account ownership laws.

- ☐ **Individual** **Joint:** For these accounts, "you" means all owners.
- ☐ Tenants with Rights of Survivorship
- ☐ Community Property
- ☐ Tenants in Entirety*
- ☐ Tenants in Common*

☐ **UGMA/UTMA** Indicate where gift/transfer was made. Default: state where account is registered. Indicate age of majority. Default: Age under applicable state statute for transfers by gift unless otherwise specified below with an age that is permissible under the applicable state statute.

State
Age of Majority

* For Tenants that are trusts, include a separate Trust Certification form or applicable pages from the trust agreement and a Trust Certification form for each trust.

- ☐ **Estate** Attach court order of appointment or letter testamentary, dated within the past 180 days. Other documents may be required.

Estate Name	Estate TIN

- ☐ **Other Non-Trust Fiduciary** Attach court appointment. For Institutions, a separate corporate resolution and articles of incorporation or corporate seal must be attached.

Fiduciary Type (guardianship, conservatorship)	Ward Name

Address of Record

Required for all accounts. Unless you request otherwise in the Document Delivery and Frequency section, account information will be mailed to the mailing address below. The mailing address should not be your Authorized agent's/Advisor's address

Permanent Address of Account *Cannot be a P.O. Box or Mail Drop.*

Address		
City	State/Province	Zip/Postal Code
Country		

Mailing Address of Account *Complete if different than Permanent Address.*

Address		
City	State/Province	Zip/Postal Code
Country		



1. Personal Information — Owner, Minor, Executor, or Guardian/Conservator

Complete the information below for an owner, minor, executor, or guardian/conservator. To provide more personal information than this application will hold, duplicate this section, as well as the Agreement Signatures section.

Enter full name as evidenced by a government-issued, unexpired document (e.g., driver's license, passport, permanent resident card).
You must provide an email address and mobile phone number to be used to verify and/or authorize transactions and for electronic delivery of other communications and documents.

First Name	Middle Name	Last Name
Taxpayer ID Number	Required <input type="checkbox"/> SSN <input type="checkbox"/> EIN <input type="checkbox"/> ITIN	Date of Birth MM DD YYYY
Entity Name Enter full entity name as evidenced by the relevant formation document (e.g., trust document, partnership agreement, corporate resolution).		
Mobile Phone Number Used as your primary phone	Email*	

* See Electronic Delivery section for more details.

Permanent Address

Complete if different than Permanent Address of Account on Page 1. Cannot be a P.O. Box or Mail Drop.

Address		
City	State/Province	Zip/Postal Code
Country		

Mailing Address

Complete if different than Mailing Address of Account on Page 1.

Address		
City	State/Province	Zip/Postal Code
Country		

Citizenship

Indicate your citizenship status.

☐ U.S. citizen Do not complete the fields below. Skip to Income Source.

☐ Foreign citizen Information in this box must be completed.

Country of Citizenship

Choose one.

☐ Permanent U.S. Resident ☐ Non-Permanent U.S. Resident ☐ Non-Resident of U.S.

Government Identification Number

Unexpired ID must include reference number and photo. Attach copy of ID.

ID Number	Country of Issuance
ID Issuance Date MM DD YYYY	ID Expiration Date MM DD YYYY

☐ Passport Number ☐ Permanent Resident Identifier ☐ Other Government-Issued ID Number

continued on next page

1. Personal Information — Owner, Minor, Executor, or Guardian/Conservator *continued*

Income Source *Industry regulations require us to ask for this information.*

Check one. ☐ Employed ☐ Self-Employed ☐ Retired ☐ Not Employed

Employer Name		Occupation	
Employer Address			
City	State/Province	Zip/Postal Code	Country

Check here if you are employed/associated with a Registered Investment Adviser ☐

Check here if you are employed/associated with a Broker-Dealer ☐

Associations

If you are employed by or associated with a broker-dealer, stock exchange, exchange member firm, the Financial Industry Regulatory Authority (FINRA), a municipal securities dealer, or other financial institution, or are the spouse or an immediate family member residing in the same household of someone who meets the aforementioned employment criteria, provide the company's name and address below. By providing this information and completing this form, you hereby authorize Fidelity to provide the associated person's employer with duplicate copies of confirmations and statements, or the transactions data contained therein, for your account(s) and any accounts you choose to have on a consolidated statement for purposes of their compliance review.

As a person associated with a member firm, you are obligated to receive consent from that firm.

Company Name			
Company Address			
City	State/Province	Zip/Postal Code	Country

Affiliations

If you, your spouse, or any of your relatives (including parents, in-laws and/or dependents, etc.), living in your home (at the same address), is a member of the board of directors, is a 10% shareholder, or is a policy-making officer or can direct corporate management of policies of a publicly traded company (an "Affiliate"), you must provide the information below.

Company Name	CUSIP or Symbol
Company Name	CUSIP or Symbol

continued on next page

1. Personal Information — Owner, Minor, Executor, or Guardian/Conservator *continued*

Trusted Contact *Optional.*

Fidelity will contact this individual if there are questions or concerns about your health or welfare due to potential diminished capacity, financial exploitation or abuse, endangerment, and/or neglect. We will:

- Provide the trusted contact with information about you and/or your account(s), but not the ability to transact on your account(s).
- Inquire about your current contact information or health status.
- Inquire about whether another person or entity has legal authority to act on your behalf (e.g., legal guardian or conservator, or trustee).

Enter information if you want to designate a person who is 18 years or older for this account. Name, Phone, and Address are all required.

First Name	Middle Name	Last Name
Email		Relationship to Owner Choose from dropdown below.
Mobile Phone		

This cannot be a P.O. box, Mail Drop, or C/O.

Address			
City	State/Province	Zip/Postal Code	Country

1. Personal Information — Additional Owner, Custodian, or Ward

Complete the information below for an owner, minor, executor, or guardian/conservator. To provide more personal information than this application will hold, duplicate this section, as well as the Agreement Signatures section.

Enter full name as evidenced by a government-issued, unexpired document (e.g., driver's license, passport, permanent resident card).
You must provide an email address and mobile phone number to be used to verify and/or authorize transactions and for electronic delivery of other communications and documents.

First Name	Middle Name	Last Name
Taxpayer ID Number	Required <input type="checkbox"/> SSN <input type="checkbox"/> EIN <input type="checkbox"/> ITIN	Date of Birth MM DD YYYY
Entity Name Enter full entity name as evidenced by the relevant formation document (e.g., trust document, partnership agreement, corporate resolution).		
Mobile Phone Number Used as your primary phone	Email*	

* See Electronic Delivery section for more details.

Permanent Address

Complete if different than Permanent Address of Account on Page 1. Cannot be a P.O. Box or Mail Drop.

Address		
City	State/Province	Zip/Postal Code
Country		

Mailing Address

Complete if different than Mailing Address of Account on Page 1.

Address		
City	State/Province	Zip/Postal Code
Country		

Citizenship

Indicate your citizenship status.

☐ U.S. citizen Do not complete the fields below. Skip to Income Source.

☐ Foreign citizen Information in this box must be completed.

Country of Citizenship

Choose one. ☐ Permanent U.S. Resident ☐ Non-Permanent U.S. Resident ☐ Non-Resident of U.S.

Government Identification Number

ID Number	Country of Issuance
ID Issuance Date MM DD YYYY	ID Expiration Date MM DD YYYY

☐ Passport Number ☐ Permanent Resident Identifier ☐ Other Government-Issued ID Number

Unexpired ID must include reference number and photo. Attach copy of ID.

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1. Personal Information — Additional Owner, Custodian, or Ward *continued*

Income Source Industry regulations require us to ask for this information.

Check one. ☐ Employed ☐ Self-Employed ☐ Retired ☐ Not Employed

Employer Name		Occupation	
Employer Address			
City	State/Province	Zip/Postal Code	Country

Check here if you are employed/associated with a Registered Investment Adviser ☐

Check here if you are employed/associated with a Broker-Dealer ☐

Associations

If you are employed by or associated with a broker-dealer, stock exchange, exchange member firm, the Financial Industry Regulatory Authority (FINRA), a municipal securities dealer, or other financial institution, or are the spouse or an immediate family member residing in the same household of someone who meets the aforementioned employment criteria, provide the company's name and address below. By providing this information and completing this form, you hereby authorize Fidelity to provide the associated person's employer with duplicate copies of confirmations and statements, or the transactions data contained therein, for your account(s) and any accounts you choose to have on a consolidated statement for purposes of their compliance review.

As a person associated with a member firm, you are obligated to receive consent from that firm.

Company Name			
Company Address			
City	State/Province	Zip/Postal Code	Country

Affiliations

If you, your spouse, or any of your relatives (including parents, in-laws and/or dependents, etc.), living in your home (at the same address), is a member of the board of directors, is a 10% shareholder, or is a policy-making officer or can direct corporate management of policies of a publicly traded company (an "Affiliate"), you must provide the information below.

Company Name	CUSIP or Symbol
Company Name	CUSIP or Symbol

continued on next page

1. Personal Information — Owner, Minor, Executor, or Guardian/Conservator *continued*

Trusted Contact *Optional.*

Fidelity will contact this individual if there are questions or concerns about your health or welfare due to potential diminished capacity, financial exploitation or abuse, endangerment, and/or neglect. We will:

- Provide the trusted contact with information about you and/or your account(s), but not the ability to transact on your account(s).
- Inquire about your current contact information or health status.
- Inquire about whether another person or entity has legal authority to act on your behalf (e.g., legal guardian or conservator, or trustee).

Enter information if you want to designate a person who is 18 years or older for this account. Name, Phone, and Address are all required.

First Name	Middle Name	Last Name
Email		Relationship to Owner Choose from dropdown below.
Mobile Phone		

This cannot be a P.O. box, Mail Drop, or C/O.

Address			
City	State/Province	Zip/Postal Code	Country

2. Account Characteristics

These features can be modified or withdrawn upon written notice to Fidelity. For Cash Management or Options Trading, obtain the appropriate form(s) from your Authorized agent(s)/Advisor(s).

Trading and Asset Movement Authorizations

Trading Authorization

Authorizes Fidelity to accept trades, servicing, or account-related instructions on your account from your Authorized agent(s)/Advisor(s), without direct instructions from you. Trading authorization is a feature of all accounts opened with this application; you grant trading authorization when you sign the application. By granting trading authorization to your Authorized agent(s)/Advisor(s), you understand and agree that your Authorized agent(s)/Advisor(s) will have the ability to instruct Fidelity to initiate transfers of cash from your bank account to your Fidelity account, based on standing written funds transfer instructions provided by you to Fidelity. See the Client Agreement for more complete information.

Asset Movement Authorization *Check one only.*

Authorizes Fidelity to accept instructions from your Authorized agent(s)/Advisor(s) to move assets in and out of your account, without direct instructions from you. If no Asset Movement option below is chosen, your Authorized agent/Advisor will not be able to move money from this account without your signature. See the Client Agreement for more complete information. Fidelity may require direct instructions from you for transactions over a certain amount.

By checking Level 1 Limited, Level 1, or Level 2, you direct Fidelity to accept instructions from your Authorized agent(s)/Advisor(s) concerning the types of transactions indicated for that level. In the descriptions below, "same-registration" means the same owner or owners and the same registration type.

☐ **No Asset Movement Authority on this Account** Your Authorized agent/Advisor will not be able to move money from this account without your signature.

- ☐ **Level 1 Limited (First Party Only)** This authorization includes one-time disbursements and the establishment of, and changes to, periodic disbursements (Periodic Distribution Plans) from your account, including:
- checks made payable to you and sent to your address.
 - bank wires or electronic funds transfers (EFTs) to any first-party account you have authorized through standing written instructions and first-party check disbursements you have authorized through standing written instructions.
 - transfers of cash or securities from this account to other same registration accounts at Fidelity, if this account is an individual or transfer on death account (accounts owned by you individually), contributions from this account to any IRA you own at Fidelity.
- ☐ **Level 1 (First and Third Party)** This includes all Level 1 Limited authorizations, plus:
- bank wires or electronic funds transfers (EFTs) to any third-party account you have authorized through standing written instructions and third-party check disbursements to any payee and address you have authorized through standing written instructions.
 - transfers of cash or securities from this account to other third-party accounts at Fidelity you have authorized through standing written instructions.
- ☐ **Level 2** This includes all Level 1 authorizations, plus:
- bank wires to any same-registration account outside Fidelity, without direct instructions from you.

Note that you agree that Fidelity cannot confirm the account registration at the receiving bank and will rely solely on the representations of your Authorized agent(s)/Advisor(s) as to the registration of the receiving account.

Outsourcing Agent Authorization ("OAA")

☐ By checking this box, you authorize Fidelity to accept instructions from the Primary Authorized agent(s)/Advisor on your Account to add or remove other eligible Authorized agents/Advisors without direct instruction from you. The Authorized agents/Advisors that are hired pursuant to OAA will have the same trading, asset movement, and fee deduction authorization you grant to your Primary Authorized agent/Advisor. Primary Authorized agents/Advisors listed on your Account solely through a platform provider or TAMP are not eligible to be granted OAA. See the Client Agreement for more information.

Margin Privileges *Subject to approval by Fidelity; involves additional costs and risks.*

☐ **Apply for Margin Privileges**

Margin allows you to borrow money from Fidelity using certain securities in your account as collateral. Not available on UGMA/UTMA, estate, and non-trust fiduciary accounts.

continued on next page

2. Account Characteristics *continued*

Core Transaction Account *Check one only.*

The core account is used for settling transactions in your account and for holding balances awaiting investment. Availability of core account options may change. If you have not chosen a fund or if the one you have selected is not available, the default option listed will be the core account. You understand and agree that Fidelity may change your core account selection with notice to you. You may make a different core account selection from available options. Contact your advisor to change your core account option. See the Core Transaction section of the Client Agreement for details.

<input type="checkbox"/> FCASH Taxable Cash Account (Taxable interest-bearing account) Default if no choice is indicated.	<input type="checkbox"/> FDRXX Fidelity Government Cash Reserves Money Market Fund U.S. accounts only.	<input type="checkbox"/> FZFX Fidelity Treasury Money Market Fund U.S. accounts only.
<input type="checkbox"/> QIWSQ Bank Deposit Sweep U.S. accounts only.	<input type="checkbox"/> OTHER Available to Authorized Investors: If you are authorized to use a different core fund option, or if you are an eligible Non-U.S. Customer,* enter the eligible core fund name or symbol.	
<div>Other</div>		

* Non-U.S. fund option not available for residents of Ireland.

Dividend and Capital Gain Payments *Check one only.*

These choices concern handling of any dividends, capital gains, and similar payments made by securities you own. Any payments that you choose to have reinvested will be used to purchase additional shares of the security that is making the payment. Any payments that you choose to have paid into your core account (along with any interest from debt securities that you own) will be invested in the core account vehicle for your account. For more information on reinvestment policies, see Dividend Reinvestment section in Client Agreement.

- | | |
|---|--|
| <input type="checkbox"/> Reinvest: Payments from all mutual funds
Pay to Core Account: Payments from all eligible U.S. equities and closed-end funds (3) <i>Default choice if you make no indication</i> | <input type="checkbox"/> Reinvest: Payments from all eligible securities; any payments from ineligible securities will be paid to your core account (D) |
| <input type="checkbox"/> Reinvest: Payments from all eligible U.S. equities and closed-end funds
Pay to Core Account: Payments from all mutual funds (S) | <input type="checkbox"/> Pay All to Account Do not distribute by check (4) |

Document Delivery and Frequency

Electronic Delivery

IMPORTANT: By signing this account application, you are consenting to receive all account-related communications electronically. You agree that Fidelity may use your email and/or mobile number to message, call, or text you for this purpose. Message and data rates apply; frequency may vary. To manage your delivery preferences, login to *Fidelity.com* and visit customer service (>Update your profile >Mail preferences) once your account is opened, or reply STOP to opt-out of texts.

To confirm your consent, please respond to the Electronic Delivery Agreement and Consent which Fidelity will email to you.

By receiving documents electronically, you may be eligible for reduced trading commissions. Consult your Authorized agent/Advisor for more details.

Note:

- Your delivery preferences are applied across all eligible Fidelity accounts owned by you based upon your most recent election. If you have already consented to electronic delivery, your election will not change.
- For joint and trust accounts, any or all owners and trustees can consent to Electronic Delivery.
- The email address provided should not be your Authorized agent/Advisor's email address.
- This email address will replace any existing email address already on our system.

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2. Account Characteristics *continued*

Document Redirection Election to redirect the document below to your advisor will supersede electronic delivery selection above.

	Send to My Advisor	OR	Send to Me	For Authorized agent/Advisor Use Only
Proxies¹ Includes all proxy-voting materials.	<input type="checkbox"/>		<input type="checkbox"/>	Proxy Voting G Number (Agent/Advisor or Administrator)
Reports Includes annual reports and information statements.	<input type="checkbox"/>		<input type="checkbox"/>	G
Prospectuses	<input type="checkbox"/>		<input type="checkbox"/>	Name (Administrator Only)
Corporate Actions²	<input type="checkbox"/>		<input type="checkbox"/>	

¹ In choosing this option, you also direct Fidelity to accept votes regarding these proxies from your Primary Authorized agent/Advisor. If your Primary Authorized agent/Advisor has a Proxy Voting G Number or uses a proxy administrator, provide the G Number and administrator name as appropriate.

² Notwithstanding your election to receive Corporate Actions/Reorganization Notices at your account's mailing address, Fidelity will accept decisions on the corporate actions/reorganization notices from your Primary Authorized agent/Advisor.

Trade Confirmation Frequency

Trade confirmations will be delivered immediately unless you elect quarterly. ☐ **Quarterly**

Duplicate Materials

Account profiles include ownership and investment objectives information. Individuals or entities receiving account statements or trade confirmations will also be granted access to all account information.

To All Account Owners If selected, indicate which documents below to send to all account owner's mailing addresses. If not selected, these communications will be mailed to the mailing address of the account and deemed to have been delivered to all account owners.

Check all that apply. ► ☐ Trade Confirmations ☐ Account Profiles ☐ Account Statements

To Third Party(ies) Attach additional sheet if necessary. Completing this section will be considered your request to instruct Fidelity to send the type(s) of duplicate documents checked to the party or parties indicated.

Check all that apply. ► ☐ Trade Confirmations ☐ Statements

Name			
Address <i>not required if providing G Number</i>			G Number
			G
City	State/Province	Zip/Postal Code	Country

3. Signatures and Dates *Form cannot be processed without signatures and dates.*

All Accounts

To help the government fight financial crimes, Federal regulation requires Fidelity to obtain your name, date of birth, address, and a government-issued ID number before opening your account, and to verify the information. In certain circumstances, Fidelity may obtain and verify comparable information for any person authorized to make transactions in an account. Also, Federal regulation requires Fidelity to obtain and verify the beneficial owners and control persons of legal entity customers. Requiring the disclosure of key individuals who own or control a legal entity helps law enforcement investigate and prosecute crimes. Your account may be restricted or closed if Fidelity cannot obtain and verify this information. Fidelity will not be responsible for any losses or damages (including, but not limited to, lost opportunities) that may result if your account is restricted or closed.

All owners must read and sign. Your signature binds you to the terms in "All Accounts" and any other applicable sections.

Note: If you would like this account to be treated as an Omnibus Account, you must complete and provide an Omnibus Certification Form. Omnibus Accounts with non-U.S. mailing addresses cannot be established. The Omnibus Certification Form is required in order to ensure that redemption fees are properly applied in accordance with the terms of mutual fund prospectuses.

By signing below, you:

- Affirm you are at least 18 years old and legally authorized to enter into this agreement in the state in which you reside.
- Certify that all information you have provided to us in this form is true, accurate, and complete.
- Represent and warrant that if you did not provide information in the sections titled Associations or Affiliations you have determined that none of the scenarios are applicable.
- Affirm that you have read, understand, and agree to the current terms of the Client Agreement and the account features you selected and agree to future amendments to these terms.

These include:

- your commitments to us.
- your authorizations and statements concerning your Authorized agent(s)/Advisor(s), including your agreement to grant your Authorized agent(s)/Advisor(s) discretion over your account (as described in a written advisory contract) and, if indicated, asset movement authority.
- our privacy policy and other notices and disclosures.
- Grant your Authorized agent(s)/Advisor(s) trading authority, as defined in the Client Agreement, and agree that we may accept instructions on your account (such as orders to buy and sell securities) from your Authorized agent(s)/Advisor(s).
- With respect to the fees associated with your account:
 - Authorize your Authorized agent(s)/Advisor(s) to set the fees you pay for their services and the fees you pay for our services as described in more detail in the Client Agreement.
 - Authorize us to accept instructions from your Authorized agent(s)/Advisor(s) to deduct Authorized agent/Advisor fees directly from your account as described in the Client Agreement.
 - Authorize brokerage commissions and termination fees to be deducted from your account (see the Client Agreement for more complete information on fees).
- Understand that all communications with us may be monitored or recorded, and you consent to this monitoring or recording.
- Indemnify and hold us harmless (jointly and severally for accounts with more than one owner) from and against any and all losses, claims, costs, actions, demands, suits, proceedings, damages and expenses, including, without limitation, regulatory fines, attorneys' fees and expenses, costs of collection, and any other costs suffered or incurred by us arising out of or relating to our effecting any transaction or acting upon any instruction given by you or any authorized agent, advisor or any third party you authorize on your account or from your action or inaction, whether intentional or not, including losses resulting from the action or inaction of any authorized agent, advisor or any other third party you authorize on your account.
- Authorize us to accept votes from your Authorized agent/Advisor on proxies if you direct us to deliver your prospectuses, proxies, related materials or corporate actions/reorganization notifications to your Primary Authorized agent/Advisor instead of delivering these documents to you, and you agree to the following:
 - We have no responsibility to verify any of the representations you make concerning these instructions.
 - You represent that if your Primary Authorized agent/Advisor has identified a proxy-related third-party administrator on this form you have separately authorized your Primary Authorized agent/Advisor to use such an administrator, your Primary Authorized agent/Advisor may not delegate to the proxy administrator the right to determine your proxy vote and we may honor instructions from your Primary Authorized agent/Advisor to forward proxy materials to the administrator and may accept your Primary Authorized agent's/Advisor's proxy voting decisions when communicated to us by the administrator.
 - Any and all Authorized agents/Advisors you have designated and authorized are either state or SEC-registered investment advisors, and have discretion over your account pursuant to a separate written advisory contract.

- Understand that unless you provide written notice to the contrary, we may supply your name to issuers of securities held in your account so you can receive important information regarding such securities. As provided by law and/or due to an independent relationship that may exist between an issuer and you, notwithstanding your objection, certain issuers of securities registered under the Investment Company Act of 1940, including the Fidelity Funds, have access to your identity through their transfer agent.
- Certify and agree that the certifications, authorizations, and appointments in this form will continue until we receive written notice of any changes in sufficient time to provide us a reasonable opportunity to act. Any revocation shall not affect any instruction or transaction initiated before its receipt.
- Understand that if requested, you will receive quarterly confirmation statements and not individual transaction confirmations, and you understand the limitations this places on your ability to monitor activity in your account.
- Acknowledge that we are not affiliated with your Authorized agent(s)/Advisor(s) unless your Authorized agent/Advisor is a Fidelity entity or affiliate.
- Understand that we will act only on authorized instructions, and have no responsibility to monitor or review your account, to determine the suitability of any investment, or to judge the appropriateness of any instruction placed so long as it appears to be authorized. You can revoke this authorization any time by giving us written notice.
- Understand that all transactions and instructions related to your account are subject to Fidelity's policies and procedures, which may result in Fidelity's refusal to accept or execute any order, instruction or transfer related to your account for any reason at any time in its sole discretion.
- Acknowledge that if you have a Bank Deposit Sweep, the cash balance in your Core Transaction Account will be swept to an FDIC insurance-eligible interest-bearing account at a Bank. You also understand that a Bank Deposit Sweep Program is not a security and therefore is not protected by SIPC but when your Core Transaction Account balance is swept to an FDIC account at a Bank, it is eligible for FDIC insurance subject to FDIC insurance coverage limits.

continued on next page

3. Signatures and Dates *Form cannot be processed without signatures and dates. continued*

- Acknowledge and agree that your Fidelity Account includes a Core Transaction Account that holds assets awaiting further investment or withdrawal. The products available in your Core Transaction Account are located in the Core Transaction Account section of this Application. Fidelity and its affiliates earn revenue on Core Transaction Accounts, which is described in more detail in the Core Transaction Account section of the Client Agreement.
- Acknowledge that you have received the description of the Core Transaction Account in the Client Agreement, including Fidelity's right to change the options available to you with notice to you when required, and consent to having free credit balances held or invested in the Core Transaction Account options made available.
- Agree that if an entity is opening the account, you will notify Fidelity if or when beneficial ownership information of the entity changes.

Clients Adding Trusted Contact Only

- You authorize Fidelity, at Fidelity's sole discretion, to communicate with your trusted contact on any designated account(s) you may have on file and disclose information about designated accounts to address possible financial exploitation or confirm specifics about your current contact information, your health status, or inquire about the identity of any legal guardian, executor, trustee, or holder of a power of attorney, or as otherwise permitted. This does not allow your trusted contact to transact on your account(s).
- Certify that your trusted contact is 18 years or older.
- Understand that we may remove any trusted contact from any account at any time for any reason.
- Understand that this designation is optional and you may change or withdraw it at any time by notifying Fidelity in writing.

Margin Privileges Applicants Only

- **You authorize us to lend separately or with the property of others, either to ourself or to others, any property we may be carrying for you on margin.** This authorization applies to all accounts we carry for you and will remain in force until we receive written notice of revocation.

For Texas Residents Only

- Acknowledge that in accordance with Texas House Bill 1454 Act No. 350, you, as an account owner of shares of a mutual fund, may designate a representative for the purpose of receiving a due diligence notice; however, you are not required to designate a representative.
- Agree that if you add a designated representative, Fidelity is required to mail the written notice upon presumption of abandonment to the representative, in addition to mailing the notice to the owner.
- Acknowledge that the designated representative does not have any rights to the mutual fund shares and may not access the shares.
- Understand that if you want to provide a designated representative, you must complete and attach a separate *Designated Representative—Texas* form.

Co-Fiduciary Certification

When more than one person or entity has been appointed to act in a fiduciary capacity (i.e., co-fiduciaries, co-guardians, or co-executors), each named individual or entity warrants, represents, and affirms the following:

- To the best of your knowledge, you are authorized to act severally or individually.
- That Fidelity may follow any of your instructions independent of all other executors, guardians, or conservators, including the delivery of assets to an executor, guardian, or conservator personally.

- The court appointment or applicable state law does not require you to act together with the other named co-fiduciaries.
- You will not exercise any powers granted to you by the decedent's will and accompanying court appointment if you know, or have reason to know, that the court appointment has been partially or completely revoked, terminated, or suspended or is no longer valid due to any reason whatsoever.
- You will not give, transmit, convey, or issue any instruction concerning the above referenced account that you know, or believe is not authorized by, or otherwise not in compliance with, in violation of the decedent's will or accompanying court appointment.
- You indemnify Fidelity (jointly and severally) from, and hold Fidelity harmless, for any and all losses, liabilities, claims, and costs (including reasonable attorneys' fees) resulting from transactions made in accordance with your instructions.
- This Certification will remain in full force and effect until such reasonable period of time after Fidelity receives written notice of its termination or significant alteration as would allow Fidelity to take the necessary steps in response to such notice.
- In the event of conflicting instructions given by fiduciaries, Fidelity may restrict the account pending receipt of satisfactory joint written instructions.

Your Authorized agent/Advisor(s) determines with Fidelity the fees and rates you pay to Fidelity for its services. Contact your advisor for information on the pricing schedule of fees and rates applicable to your account.

Asset-Based Pricing Clients:

You represent that you have read, understand, and agree to the terms and conditions of the Asset-Based Pricing Supplement included with this application and agree to be bound by such terms and conditions as are currently in effect and as may be amended from time to time.

Transaction-Based Pricing Clients:

Transaction-based pricing includes interest rates, commission rates, and fees applicable to your account. For some customers, it will include a Custody Fee. You agree to be bound by the terms and conditions of such rates and fees as are currently in effect and as may be amended from time to time and represent that your Authorized agent/Advisor has informed you of such fees. See the Client Agreement for additional information regarding rates and fees, including the Custody Fee.

All Account Owners must sign and date on next page.

Note: You must attach this page when you return this application to Fidelity.

3. Signatures and Dates *Form cannot be processed without signatures and dates. continued*

If you are a U.S. person:

- You certify under penalties of perjury that:
(1) the Social Security number or Taxpayer identification Number that you provided on this application is correct (or you are waiting for a number to be issued to you); and (2) you are not subject to backup withholding because: (a) you are exempt from backup withholding, or (b) you have not been notified by the Internal Revenue Service (IRS) that you are subject to

backup withholding for failure to report all interest or dividends, or (c) the IRS has notified you that you are no longer subject to backup withholding; and (3) you are a U.S. citizen or other U.S. person, including a U.S. resident alien; and (4) the FATCA code(s) entered on this form (if any) indicating that you are exempt from FATCA reporting are correct.

- ☐ If you have been notified by the IRS that you are currently subject to backup

withholding because you have failed to report all interest and dividends on your tax return, you must check this box to indicate that you do not certify Item 2.

If you are not a U.S. person:

- You are submitting the applicable Form W-8 with this form to certify your foreign status and, if applicable, claim tax treaty benefits.

Margin Applicants Only:

BY SIGNING THIS APPLICATION YOU ACKNOWLEDGE THAT YOUR SECURITIES MAY BE LOANED TO FIDELITY OR OTHERS AND THAT YOU HAVE READ AND RETAINED A COPY OF THE MARGIN DISCLOSURE STATEMENT AND MARGIN AGREEMENT. You agree to be bound by such terms and conditions as are currently in effect and as may be amended from time to time.

The IRS does not require your consent to any provision of this document other than the certifications required to avoid backup withholding.

You acknowledge that this account is governed by a pre-dispute arbitration clause, which appears on the last page of the Client Agreement, and that you have read the pre-dispute arbitration clause.

Owner Signature(s)

If three or more owners, duplicate the Agreement Signatures section for additional owners to sign. Also fill out a duplicate of the Personal Information section for each owner. Submit this application, along with any other required materials, to your Authorized agent/Advisor.

All account owners must sign.

Account Opening Authorization – Signature and Date Required

Print Owner/Custodian/Trustee Name First, M.I., Last		Print Owner/Custodian/Trustee Name First, M.I., Last	
Owner/Custodian/Trustee Signature	Date MM - DD - YYYY	Owner/Custodian/Trustee Signature	Date MM - DD - YYYY
SIGN X	X	SIGN X	X



Brokerage Account Client Agreement

Client Agreement

Please retain for your records

In this agreement, "Fidelity," and "you" refer to Fidelity Brokerage Services LLC and National Financial Services LLC and their affiliates, and their employees, agents, representatives, shareholders, successors, and assigns as the context may require; "I," "we," and "account owner" refer to the owner indicated on the account form or duly Authorized agent(s)/Advisor(s); and for any account with more than one owner (such as a joint or trust account), "I," "we," and "account owner" or "account owners" refer to all owners, collectively and individually, or duly Authorized agent(s)/Advisor(s).

1. Important Aspects of the Account

Upon approval by Fidelity, I understand that Fidelity will maintain an account for me and buy, sell, or exchange securities or other products in accordance with instructions from me or my Authorized agent(s)/Advisor(s). Certain administrative services will be provided to me or my Authorized agent(s)/Advisor(s) by Fidelity. I understand that this Brokerage Account Client Agreement governs my account and my relationship with Fidelity and its affiliates. Without limiting any other provision of this Agreement, I understand and agree that as among me, my Authorized agent(s)/Advisor(s) and Fidelity:

- A. I have selected my Authorized agent(s)/Advisor(s) based on criteria I deem appropriate for my investment needs and without any advice or recommendation from Fidelity;
- B. All decisions relating to my investment or trading activity shall be made solely by me or my Authorized agent(s)/Advisor(s) identified on my Brokerage Account Application or my Brokerage Account Application for Business Registrations (collectively, Fidelity Brokerage Application) or subsequently in writing; my Authorized agent(s)/Advisor(s) has collected from me such information as is required to determine the suitability of my investment or trading activity;
- C. Fidelity is authorized to accept and act upon the instruction of my Authorized agent(s)/Advisor(s) with respect to my account in accordance with this Agreement until you receive written notice revoking such authority;
- D. My Authorized agent(s)/Advisor(s) is not affiliated with or an agent of Fidelity unless such Authorized agent/Advisor is a Fidelity entity or affiliate. My Authorized agent/Advisor is not not authorized to act or make representations on Fidelity's behalf;
- E. I understand deposits by check shall be made payable to Fidelity Brokerage Services LLC. Deposits to fund a new account may be attached to my account application. I understand that Fidelity will process checks only when received in good order from me or my Authorized agent(s)/Advisor(s). I understand that my Authorized agent(s)/Advisor(s) may have its own processes to review checks prior to submitting them to Fidelity on my behalf. I will contact my Authorized agent(s)/Advisors for information on their processes. Subsequent deposits should be mailed directly to Fidelity Investments. Overnight mail may be sent to: 100 Crosby Parkway, Mailzone KC1J, Covington, KY 41015. Regular mail may be sent to: P.O. Box 770002, Cincinnati, OH 45277-0075;
- F. Fidelity has no responsibility and will not undertake to review, monitor, or supervise the suitability of the trading decisions made by me or my Authorized agent(s)/Advisor(s) or the frequency of the investment or trading activity in my account. My Authorized agent(s)/Advisor(s) has collected from me such information as is required to determine the suitability of my investment or trading activity;
- G. Fidelity will have no duty to inquire into the authority of the Authorized agent(s)/Advisor(s) to engage in particular transactions or investment strategies or to monitor the terms of any oral or written agreement between me and the Authorized agent(s)/Advisor(s). I represent that my Authorized agent/

Advisor has disclosed to me all third-party service providers it uses and any data related to my account it makes available to third-party providers in the course of managing my account. I further agree that Fidelity will not undertake nor does it have any obligation to review or monitor these third-party providers.

- H. I acknowledge that if I reside outside the United States I have received this application and agreement as a result of my express request for them. I further acknowledge that nothing herein is an offer or solicitation of any security, product, or service in any jurisdiction where its offer or sale would be contrary to local law or regulation;
- I. I shall indemnify and hold harmless Fidelity and its officers, directors, employees, agents, and affiliates from and against any and all losses, claims, or financial obligations that may arise from any act or omission of my Authorized agent(s)/Advisor(s) with respect to my account.
- J. The Authorized agent(s)/Advisor(s) will comply with, and make all disclosures as required by, all applicable state, federal, and industry securities laws and regulations, and interpretations promulgated thereunder, including, but not limited to, the Investment Advisers Act of 1940, the Securities Exchange Act of 1934, the Investment Company Act of 1940, and Financial Industry Regulatory Authority (FINRA) Conduct Rules.
Fidelity will not undertake to confirm or ensure that my Authorized agent(s)/Advisor(s) remains in compliance with its obligations.

How Fidelity Supports Your Advisor and Associated Conflicts of Interest

Fidelity provides your advisor with a range of support services, incentives, and other benefits (collectively, "Benefits") to help your advisor conduct its business and serve you. The Benefits provided to your advisor may not necessarily benefit your account and present conflicts of interest for your advisor. The following is a description of some of the Benefits that Fidelity makes available to advisors. The Benefits vary among advisors depending on the business they and their clients conduct with us and consider various other factors. Fidelity's relationship with an advisor can be separately negotiated. To the extent your advisor receives Benefits from Fidelity under arrangements with Fidelity, your advisor should disclose these arrangements to you. Please contact us or your advisor for information about the Benefits and arrangements available to your advisor in managing your account through Fidelity and contact your advisor to further explain any conflicts of interest that may result from the Benefits.

Free or discounted services for your advisor's business

Fidelity pays for, and/or provides some advisors with access to, Fidelity and third-party products, services, and solutions to help grow advisors' business practices, to provide advisors with information and education of industry trends, to create internal efficiencies for Fidelity, and to streamline advisors' operations. These services include, but are not limited to, Fidelity's practice management and consulting services, access and discounts to Fidelity and third-party proprietary products, tools, services, and platforms Fidelity pays some of its affiliates, including eMoney Advisor, and third parties to obtain discounts on products and services for some advisors. The discounts are negotiated individually with advisors based on various factors, including the advisor's assets under management with Fidelity, the profitability of the advisor's relationship to Fidelity and, at times, non-financial factors such as the advisor's status in the industry. Fidelity also assists some advisors with their marketing activities, including, but not limited to, by providing or paying for marketing materials and initiatives for the advisors, co-sponsoring events with the advisors, or engaging in joint marketing initiatives with the advisors.

Transition-related expense payments

Fidelity assists advisors in transferring client accounts to its platform and in completing documentation to open Fidelity brokerage accounts and enrolling clients in Fidelity services, such as providing or paying for clerical staff to assist in this process or paying account transfer fees or other charges you or other clients may have to pay when changing custodians or service providers. Fidelity also makes direct payments to some advisors in the form of reimbursements for reasonable travel expenses incurred when reviewing Fidelity business and practices. Fidelity also makes direct payments to some advisors for performing back-office, administrative, custodial support, and clerical services for Fidelity in connection with client accounts for which Fidelity acts as custodian. Some advisors may already perform, or be obligated to perform, these services when servicing client accounts and receive compensation from clients for the services. To the extent the amount of these direct payments differs based on the types of assets held in client accounts, this differential poses a conflict of interest because the advisor has an incentive to favor certain types of investments over others.

Research

Fidelity also offers investment research as an additional resource for advisors and provides access to Fidelity representatives to help provide additional support services. These and other services will provide Benefits to advisors who receive them and are made available to advisors at no fee or at a discounted fee. Fidelity's provision of these services and other Benefits to advisors may be based on the advisors' clients placing a certain amount of assets in accounts with Fidelity within a certain period of time. Such arrangements can pose a conflict of interest in connection with an advisor's recommendation or requirement that its clients establish accounts with Fidelity.

Negotiated pricing arrangements and product offerings

Fidelity and an advisor agree to a pricing schedule (i.e., transaction-based pricing, asset-based pricing, custody and service fees) for the fees to be paid to Fidelity for the services it provides to your account. The pricing schedule is based on the nature and scope of business the advisor has with Fidelity, including, but not limited to, the current and future expected amount of the advisor's client assets in Fidelity's custody, the types of securities managed by the advisor, and the expected frequency of the advisor's trading. Some advisors agree to pricing schedules that are higher than other pricing schedules that are otherwise available in certain circumstances, and/or that limit the investment services and products that are available to you. Additionally, Fidelity may change the pricing, investment services and products, and other Benefits it provides if the nature or scope of an advisor's business with Fidelity changes or does not reach certain thresholds. In such cases, pricing for the advisor's client accounts, including your own account if your advisor has such an agreement with Fidelity, may increase to an amount Fidelity decides. These types of arrangements can pose a conflict of interest for advisors and may influence the nature and scope of business the advisors conduct with Fidelity as well as impact their recommendations or advice they make to clients. For more information on the pricing that applies to your account, contact your advisor.

Direct payments or benefits to advisors

Fidelity provides, from time to time, business loans to advisors on commercially reasonable terms that are potentially forgivable to the extent the advisor meets certain thresholds during the loan term, including maintaining a certain amount of assets either maintained on, or transferred to, the Fidelity platform. Fidelity also, from time to time, makes payments directly to advisors, their affiliates, and to third parties on behalf of certain advisors for referring new business to Fidelity. Further, Fidelity administers certain business to business introductory and referral programs where, from time to time, it collects a referral fee when new business arrangements result.

Third-party integrations

Fidelity has entered into certain agreements to make the services of various third parties available to advisors. These services are generally, but not exclusively, accessed by advisors via integrations, including, but not limited to, single-sign-on from Fidelity's website, application

programming interfaces, and data transmissions. These services allow advisors to connect directly with certain third parties to obtain such third parties' services. In some cases, Fidelity receives compensation from these third parties when advisors decide to use their services. This compensation can take a variety of forms, including, but not limited to, payments for marketing and referrals, as well as sharing in a third party's revenue attributable to an advisor's usage of their products and services.

Other

Fidelity may provide information to advisors that may be deemed to be the solicitation of a particular security. In no event does the providing of this information to an advisor constitute solicitation of a particular security to the client or account owner by Fidelity, and an advisor is responsible for interposing its own judgment when giving recommendations or advice to clients. Any trading decisions are solely between the advisor and the account owner.

To help the government fight financial crimes, federal regulation requires Fidelity to obtain my name, date of birth, address, and a government-issued ID number before opening my account, and to verify the information. In certain circumstances, Fidelity may obtain and verify comparable information for any person authorized to make transactions in an account. Also, federal regulation requires Fidelity to obtain and verify the beneficial owners and control persons of legal entity customers. Requiring the disclosure of key individuals who own or control a legal entity helps law enforcement investigate and prosecute crimes. My account may be restricted or closed if Fidelity cannot obtain and verify this information. Fidelity will not be responsible for any losses or damages (including, but not limited to, lost opportunities) that may result if my account is restricted or closed. Any information I provide to Fidelity may be shared with third parties for the purpose of validating my identity and may be shared for other purposes in accordance with Fidelity's Privacy Policy. Any information I give to Fidelity may be subject to verification, and I authorize Fidelity to obtain a credit report about me at any time. Upon written request, I will be provided the name and address of the credit reporting agency used. Fidelity also may monitor or tape-record conversations with me in order to verify data about any transactions I request, and I consent to such monitoring or recording.

I hereby acknowledge Fidelity Brokerage Services LLC ("FBS") as my broker and National Financial Services LLC ("NFS," together with FBS, "Fidelity"), an affiliate of FBS, as custodian of the securities held in the account opened with this application, of which I am the beneficial owner. I also understand that my account is carried by NFS and that all terms of this Agreement also apply between me and NFS.

Industry regulations require that FBS and its clearing firm, NFS, allocate between them certain functions regarding the administration of my account. The following is a summary of the allocation of those functions performed by FBS and NFS.

FBS is responsible for:

- (1) Obtaining and verifying account information and documentation;
- (2) Opening and approving my account;
- (3) Acceptance of orders and other instructions from me or my Authorized agent/Advisor regarding my account, and for promptly and accurately transmitting those orders and instructions to NFS;
- (4) Determining that those persons placing instructions for my account are authorized to do so. Neither NFS nor FBS will give me advice about my investments or evaluate the suitability of investments made by me, my Authorized agent/Advisor, or any other party;
- (5) Operating and supervising my account and its own activities in compliance with applicable laws and regulations, including compliance with federal, industry, and NFS margin rules pertaining to my margin account and for advising me of margin requirements;
- (6) Maintaining the required books and records for the services it performs;
- (7) Investigating and responding to any questions or complaints I have about my account(s), confirmations, my periodic statement, or any other matter related to my account(s). FBS will notify NFS with respect to matters involving services performed by NFS.

NFS is responsible, at the direction of FBS, for:

(1) The clearance and settlement of securities transactions; (2) The execution of securities transactions, in the event NFS accepts orders from FBS; (3) Preparing and sending transaction confirmations and periodic statements of my account (unless FBS has undertaken to do so); (4) Acting as custodian for funds and securities received by NFS on my behalf; (5) Following the instructions of FBS with respect to transactions and the receipt and delivery of funds and securities for my account; (6) Extending margin credit for purchasing or carrying securities on margin; (7) Maintaining the required books and records for the services it performs.

If I have so indicated on the application, I authorize and instruct Fidelity to accept such votes regarding proxies from my Authorized agent/Advisor on my behalf.

Fidelity does not promote day-trading strategies. I understand that trading in volatile markets can present increased challenges and risks, which may include:

- the risk of market orders being executed at unexpectedly high prices. If I have limited assets to pay for a transaction, such as in a retirement account with contribution restrictions, I will consider placing a limit order. If I cannot pay for a transaction, Fidelity may be required to liquidate account assets at my risk.
- delays in quotes, order execution, and reporting. In volatile markets, transmission of quotes, orders, and execution reports may be delayed, even for information that appears to be real time. Security prices can change dramatically during such delays.
- it may not be possible to cancel an order previously submitted, even if I have received a confirmation that you have received my cancellation order. As a result, I understand that I will be sure my prior order is actually cancelled before entering a replacement order.
- certain securities, such as IPOs trading in the secondary market and Internet and other technology-related stocks, are subject to particular volatility. I will consider managing market risk with limit orders.
- access to Fidelity or my account can be delayed by factors such as high telephone volume or systems capacity limitations. I may have alternative ways of reaching Fidelity such as the Web and telephone representatives in addition to the automated telephone system.
- the effect of using margin is amplified during periods of high price volatility. If I am a margin investor, I will periodically examine how the use of margin fits within my investment objectives, risk tolerance, and financial resources.

For more complete information regarding this topic, I can contact Fidelity.

Before establishing a Non-Fidelity Prototype Retirement Account, the plan/program must meet the requirements as set forth in the Non-Fidelity Prototype Retirement Application. Depending on the plan type, I may be required to send certain pages of the plan or trust documents to Fidelity. Fidelity provides only the investment vehicle for non-Fidelity prototype retirement plans and does not provide any trustee recordkeeping, tax withholding, or tax reporting services. As Trustee, I or my recordkeeper will be responsible for tracking each participant's ownership share in the investment account(s). I am applying for a Non-Fidelity Prototype Retirement Plan; the trustees/custodians of the plan can grant trading authority as defined in this agreement to the plan participant by completing a Trading Authorization form.

If there are more than two account owners/holders, make a copy of the Joint Owner/Minor/Trustee Personal Information page and complete with the additional account holders' information. All account holders must sign the application in the Signature section. In order to establish the account, Fidelity is required to request the information in the Personal Information section for all account owners. Failure to provide this information will restrict the account, including transfer of assets.

Estate or Other Non-Trust Fiduciary account registrations types are not eligible for Margin. Non-Fidelity Prototype Retirement Accounts are not eligible for Level 2 Asset Movement Authorization. If Level 2 is selected, the request will default to Level 1 authorization.

Estate Accounts require a court appointment/letter of testamentary. Additional paperwork may be required.

2. Custodial Accounts

(Uniform Gifts to Minors Act or Uniform Transfers to Minors Act)

If this is a custodial account, I understand Fidelity will maintain an account established under the Uniform Gifts to Minors Act ("UGMA") or Uniform Transfers to Minors Act ("UTMA") and for which I act as custodian. I understand that I represent and warrant the assets in the account belong to the minor, and all such assets, whether or not transferred out of the Fidelity UGMA/UTMA account, will only be used by me for the benefit of the minor.

I agree that at any time, Fidelity may, in its sole discretion and without prior notice to me, disclose information about the account to the beneficiary. I further agree that when the beneficiary reaches the age of majority, I will undertake to transfer, in an appropriate and timely manner consistent with applicable state law, the custodial property of the account to the beneficiary. In the event that the custodial property of the account is not transferred accordingly, I agree that Fidelity may in its sole discretion and without prior notice to me, (i) add restrictions to the account to prevent further activity including trading and/or (ii) in the event I am unable and/or unwilling to transfer the assets, unilaterally transfer the custodial property to the beneficiary. I agree to indemnify and hold harmless Fidelity and its officers, directors, employees, agents, and affiliates from and against any and all losses, claims, or financial obligations that may arise from any such restrictions to the account and/or the transfer of the custodial property by Fidelity, including without limitation any claims I may or could have for any expenses incurred in the performance of my custodial duties and/or compensation for services that I have not already deducted from the UGMA/UTMA account prior to such restrictions and/or transfer.

As used herein, "I" or "my" shall refer to the custodian or to the minor as the context may require. As Custodian, I am required to sign the application.

These accounts are not eligible for Margin.

3. Joint Accounts

If this is a joint account, "I" also refers to all account holders, jointly and severally. All account holders agree that any account holder has authority on behalf of the joint account to:

- Buy, sell (including short sales), and otherwise deal in stock, bonds, options, and other eligible securities or other investments on margin or otherwise.
- Receive notices, confirmations, account statements, and shareholder and any other communications of every kind; and consent to the electronic delivery of such communications in accordance with terms of the Electronic Delivery Agreement, which is incorporated by reference herein.
- Receive money, securities, and property of every kind, and dispose of the same on behalf of the joint account.
- Make agreements relating to any of the foregoing matters, and terminate, modify, or waive any of the provisions of the Agreement on behalf of the joint account.
- Deal with Fidelity as fully and completely as if he (she) alone were interested in this account and without notice to the other account participants.
- Elect and terminate account-related products and services.

All obligations and liabilities arising under this account are joint and several and may be enforced by Fidelity against any or all account holders.

Fidelity is authorized to follow the instruction in every respect of any joint account holder without notice to any other account holder, and to deliver any or all monies, securities, or other property to any joint account holder upon the instructions of any joint account holder, or to

any other duly authorized person upon such instructions, even if such delivery or payment is to that joint account holder personally and not to the other(s). Fidelity will be under no obligation to inquire into the purpose or propriety of such delivery or payment and is not bound to inquire into the disposition or application of such delivery or payment. This authority remains in force until written notice to the contrary is addressed and delivered to Fidelity. Fidelity, in its sole discretion and for its sole protection, may terminate the account upon receipt of such notice and may require the written consent of all account holders prior to acting upon the instruction of any account holder.

Laws governing joint ownership of property vary from state to state. I understand that I am responsible for verifying that the joint registration I select is valid in my state. Generally, however, for **joint tenants with rights of survivorship**, in the event of the death of either tenant, the entire interest in the joint account shall be vested in the surviving joint tenant(s) on the same terms and conditions. For **tenants in common**, joint tenants are responsible for maintaining records of the percent of ownership. In the event of death of either tenant, the interest in their shares of the tenancy shall vest in the decedent's legal representative. Fidelity will take instruction from any joint tenants as if from all joint tenants, but Fidelity reserves the right to require all parties to authorize a transaction. State laws regulating **community property** vary. I will consult my own legal advisor.

4. Trust, Plan, and Business Accounts

For most trust accounts, a notarized certification of trust or copies of the first page and signature page of the trust documents are required to establish the account.

If this account is a trust or business account, or this account is not owned by individual person(s), "I" also refers to all account holders, trustees, corporate officers, partners, club members, custodians, guardians, executors, and any other authorized person(s) who hold(s) any position of ownership or fiduciary responsibility for this account.

Trustee powers include, without limitation, the authority to buy, sell (including short sales), exchange, convert, tender, redeem, and withdraw assets (including delivery of securities to and from the account); to receive notices, confirmations, account statements, shareholder and communications of every kind on behalf of the trust; and consent to the electronic delivery of such communications in accordance with terms of the Electronic Delivery Agreement, which is incorporated by reference herein; and to trade securities on margin or otherwise (including the purchase and/or sale of option contracts) for and at the risk of the Trust. All orders and transactions will be governed by the terms and conditions of all other account agreements applicable to this account.

Note: margin privileges on a Fidelity Non-Prototype Account are limited to purchases or sales of securities. Securities purchased on margin may be considered a "debt-financed property" and subject to unrelated business taxable income (UBTI). Any filing or taxes, including UBTI, are the responsibility of me, the account holder; the Plan's trustee; or the IRA Custodian.

National Financial Services LLC ("NFS") and Fidelity Brokerage Services LLC ("FBS") are not responsible for filing this tax form or remitting the applicable taxes.

The plan's trustee or IRA Custodian is responsible for the administration of the retirement plan or IRA, including following the governing plan document or custodial agreement and for additional reporting, tax filing, and disclosures required on this account.

FBS and NFS may not provide necessary information required for my or my plan's trustee to complete these additional filings and/or disclosures.

Fidelity Non-Prototype Accounts are not eligible for Non-Purpose Loans.

For Corporate, LLC, and Unincorporated Accounts, the authorized individuals are authorized to purchase, trade, sell, assign, transfer, and/or deliver any and all stocks, bonds, options, or any other securities, listed or unlisted, in said account and to execute any and all instruments necessary, proper, and desirable for the purpose, including executing any and all documentation necessary to establish cash, margin, and/or option account(s) and to receive notices, confirmations, statements, and shareholder and other communications

of every kind on behalf of the entity, and consent to the electronic delivery of such communications in accordance with terms of the Electronic Delivery Agreement, which is incorporated by reference herein; further, any past action in accordance herewith is hereby ratified and confirmed.

For Partnership Accounts, the authorized individuals jointly and severally agree that each shall have authority on behalf of the partnership to establish and maintain one or more accounts (including, but not limited to, margin accounts) to buy, sell, trade, and otherwise deal in, through you as brokers, stocks, bonds, options, and any other securities, listed or unlisted on margin or otherwise (including short sales); to receive on behalf of the partnership account demands, notices, confirmations, reports, statements of account, and communications of every kind; to receive on behalf of the partnership account money, securities, and property of every kind, and to dispose of same; and to receive notices, confirmations, account statements, and shareholder and other communications of every kind on behalf of the partnership and set the delivery preferences to electronic or paper for the receipt of such communications to make on behalf of the partnership account agreements relating to any of the foregoing matters and to terminate or modify same or waive any of the provisions thereof; and generally to deal with Fidelity on behalf of the partnership account as fully and completely as if he (she) alone were interested in said account, all without notice to the other or others interested in said account.

5. For Corporate Accounts: Corporate Resolution and Authorization

Copy of certain resolutions (certified in the Business Information section of the Brokerage Account Application for Business Registrations) adopted by the Board of Directors whereby the establishment and maintenance of trading accounts have been authorized.

RESOLVED

FIRST: That the individuals listed in the Personal Information section of the Brokerage Account Application for Business Registrations are, and each of them hereby is, authorized and empowered, for and on behalf of this Corporation (herein called the "Corporation"), to establish and maintain one or more accounts (which may be margin accounts) with Fidelity Brokerage Services LLC and National Financial Services LLC (herein called the "Brokers") for the purpose of purchasing, investing in, or otherwise acquiring, selling (including short sales), possessing, transferring, exchanging, or otherwise disposing of, or turning to account of, or realizing upon, and generally dealing in and with any and all forms of securities including, but not by way of limitation, shares, stocks, bonds, debentures, notes, scrip, participation certificates, rights to subscribe, options, warrants, certificates of deposit, mortgages, evidences of indebtedness, commercial paper, certificates of indebtedness, and certificates of interest of any and every kind and nature whatsoever, secured or unsecured, whether represented by trust, participating, and/or other certificates or otherwise.

The fullest authority at all times with respect to any such commitment or with respect to any transaction deemed by any of the said officers and/or agents to be proper in connection therewith is hereby conferred, including authority (without limiting the generality of the foregoing) to give written or oral instructions to the Brokers with respect to said transactions; to borrow money and securities and to borrow such money and securities from or through the Brokers, and to secure repayment thereof with the property of the Corporation; to bind and obligate the Corporation to and for the carrying out of any contract, arrangement, or transaction, which shall be entered into by any such officer and/or agent for and on behalf of the Corporation with or through the Brokers; to pay by checks and/or drafts drawn upon the funds of the Corporation such sums as may be necessary in connection with any of the said accounts; to deliver securities and contracts to the Brokers; to deliver securities to and deposit funds with the Brokers; to order the transfer or delivery of securities to any other person whatsoever, and/or to order the transfer of record of any securities, to any name selected by any of the said officers or agents; to affix the corporate seal to any documents or securities to any name selected by any of the said officers or agents; to affix the corporate seal to any documents or agreements, or otherwise; to endorse any

securities and/or contracts in order to pass title thereto; to direct the sale or exercise of any rights with respect to any securities; to sign for the Corporation all releases, powers of attorney, and/or other documents in connection with any such account, and to agree to any terms or conditions to control any such account; to direct the Brokers to surrender any securities to the proper agent or party for the purpose of effecting any exchange or conversion, or for the purpose of deposit with any protective or similar committee, or otherwise; to accept delivery of any securities; to appoint any other person or persons to do any and all things which any of the said officers and/or agents is hereby empowered to do; and generally to do and take all action necessary in connection with the account, or considered desirable by such officer and/or agent with respect thereto.

SECOND: That the Brokers may deal with any and all of the persons directly or indirectly, by the foregoing resolution empowered, as though they were dealing with the Corporation directly.

THIRD: That the Secretary of the Corporation be, and he hereby is, authorized, empowered, and directed to certify, under the seal of the Corporation, or otherwise, to the Brokers:

- (a) a true copy of these resolutions;
- (b) specimen signatures of each and every person by these resolutions empowered;
- (c) a certificate (which, if required by the Brokers, shall be supported by an opinion of the general counsel of the Corporation, or other counsel satisfactory to the Brokers) that the Corporation is duly organized and existing, that its charter empowers it to transact the business by these resolutions defined, and that no limitation has been imposed upon such powers by the By-Laws or otherwise.

FOURTH: That the Brokers may rely upon any certification given in accordance with these resolutions, as continuing fully effective, unless and until the Brokers shall receive due written notice of a change in or the rescission of the authority so evidenced, and the dispatch or receipt of any other form of notice shall not constitute a waiver of this provision, nor shall the fact that any person hereby empowered ceases to be an officer of the Corporation or becomes an officer under some other title, in any way affect the powers hereby conferred. The failure to supply any specimen signature shall not invalidate any transaction if the transaction is in accordance with authority actually granted.

FIFTH: That in the event of any change in the office or powers of persons hereby empowered, the Secretary shall certify such changes to the Brokers in writing to the manner herein above provided, which notification, when received, shall be adequate both to terminate the powers of the persons theretofore authorized, and to empower the persons thereby substituted.

SIXTH: That the foregoing resolutions and the certificates actually furnished to the Brokers by the Secretary of the Corporation pursuant thereto be, and they hereby are, made irrevocable until written notice of the revocation thereof shall have been received by the brokers.

6. Co-Fiduciaries

If more than one fiduciary is appointed for an estate, a guardian, or a conservator account, the co-fiduciaries represent and agree that they will act in accordance with the applicable appointment documents and state law, including, but not limited to, the authority for each to act separately and without notice to the other co-fiduciaries with respect to instructions each provides to Fidelity.

7. Applicable Rules, Regulations, and Policies

All transactions through Fidelity are subject to the constitution, rules, regulations, customs, and usages of the exchange, market, or clearinghouse where executed; to any applicable policies and/or procedures of Fidelity; and to any applicable federal or state laws, rules, and regulations.

I also understand that all transactions and instructions related to my account are subject to Fidelity's policies and procedures, which may result in Fidelity's refusal to accept or execute any order, instruction, or transfer related to my account for any reason at any time in its sole discretion. Fidelity reserves the right to restrict my account from withdrawals and/or trades for any reason, including but not limited to if there is a reasonable suspicion of fraud, diminished capacity, or inappropriate activity. Fidelity also reserves the right to restrict my

account from withdrawals and/or trades if Fidelity is put on reasonable notice that the ownership of some or all of the assets in the account is in dispute. If I am funding this account from another account, I am aware that if I select an in-kind transfer, certain shares may not be transferable. Nontransferable shares will be liquidated. I am responsible for confirming the eligibility of shares to be transferred prior to giving funding instructions and understanding any tax or other impact of shares that are liquidated.

I agree to conduct business with Fidelity and its affiliates electronically, which necessarily includes having my personal financial information transmitted electronically, and to electronic delivery of all documents (including my initial notice of our privacy policy) and communications related to this and all my other Fidelity accounts as detailed in the Electronic Delivery Agreement, which is incorporated herein by reference. I also agree to provide and maintain as current both my mobile number and email address to assist with account security and for the delivery of transactional alerts and communications, and I consent to Fidelity's use of my email address and/or mobile number to message, call, or text me for these purposes. Message and data rates apply and frequency may vary. For help with texts, reply HELP. To opt out of texts, reply STOP. I acknowledge that I can update my contact information through my profile on *Fidelity.com*.

I agree to keep secure my account number, and I will not share any username and password I use in connection with my account with others, including but not limited to my Authorized agent/Advisor. I understand that electronic (including wired and wireless) communications may not be encrypted, and I acknowledge that there is a risk that data, including email, electronic and wireless communications, and personal data, may be accessed by unauthorized third parties when communicated between me and Fidelity or between me and other parties. I also agree to protect Fidelity against losses arising from my usage of market data and other information provided by third parties.

I am aware that various federal and state laws or regulations may be applicable to transactions in my account regarding the resale, transfer, delivery, or negotiation of securities, including the Securities Act of 1933 ("Securities Act"), the Securities Exchange Act of 1934, and Rules 144, 144A, 145, and 701 thereunder. I agree that it is my responsibility to notify you of the status of such securities and to ensure that any transaction I effect with you will be in conformity with such laws and regulations. I will notify you if I am or become an "affiliate" or "control person" within the meaning of the Securities Act with respect to any security held in my account. I will comply with such policies, procedures, and documentation requirements with respect to "restricted" and "control" securities (as such terms are contemplated under the Securities Act) as you may require. In order to induce you to accept orders with respect to securities in my account, I represent and agree that, unless I notify you otherwise, such securities or transactions therein are not subject to the laws and regulations regarding "restricted" and "control" securities. I understand that if I engage in transactions which are subject to any special conditions under applicable law, there may be a delay in the processing of the transaction pending fulfillment of such conditions. I acknowledge that if I am an employee or "affiliate" of the issuer of a security, any transaction in such security may be governed by the issuer's inside trading policy, and I agree to comply with such policy.

8. Commissions/Fees/Pricing

I hereby authorize my Authorized agent/Advisor(s) to enter into a schedule of interest rates, commission rates, and other fees that Fidelity will charge my account for its services. My Authorized agent/Advisor(s) will direct Fidelity to have my account be subject to an Asset-Based Pricing Schedule or a Transaction-Based Pricing Schedule (as determined by my Authorized agent/Advisor(s)). I understand that some accounts that are subject to Transaction-Based Pricing will also be subject to a Custody Fee as determined by my advisor. The Custody Fee will be a flat fee or a fee calculated on the average daily balance of all assets in my account multiplied by the Custody Fee rate, adjusted to a monthly amount and charged quarterly in arrears. The Custody Fee for the quarter will be the sum of the monthly amounts for the quarter. I understand that the Custody Fee is for services Fidelity provides to my account and is in addition to other fees and transaction charges applicable to my account and may be amended

from time to time. I represent that my Authorized agent/Advisor(s) has informed me of the pricing schedule applicable to my account and I agree to be bound thereby.

Use of Funds Held Overnight

As compensation for services provided with respect to accounts, NFS receives use of: amounts from the sale of securities prior to settlement; amounts that are deposited in the accounts before investment; and disbursement amounts made by check prior to the check being cleared by the bank on which it was drawn. Any above amounts will first be netted against outstanding account obligations. The use of such amounts may generate earnings (or "float") for NFS or instead may be used by NFS to offset its other operational obligations. Information concerning the time frames during which NFS may have use of such amounts and rates at which float earnings are expected to accrue is provided as follows:

- (1) **Receipts.** Amounts that settle from the sale of securities or that are deposited into an account (by wire, check, ACH [Automated Clearing House] or other means) will generally be invested in the account's core account investment vehicle (core account) by close of business on the business day following NFS's receipt of such funds. NFS gets the use of such amounts from the time it receives funds until the core account purchase settles on the next business day. Note that amounts disbursed from an account (other than as referenced in Section 2 below) or purchases made in an account will result in a corresponding "cost" to NFS. This occurs because NFS provides funding for these disbursements or purchases one day prior to the receipt of funds from the account's core account. These "costs" may reduce or eliminate any benefit that NFS derived from the receipts described previously.
- (2) **Disbursements.** NFS gets the use of amounts disbursed by check from accounts from the date the check is issued by NFS until the check is presented and paid.
- (3) **Float Earnings.** To the extent that such amounts generate float earnings, such earnings will generally be realized by NFS at rates approximating the Target Federal Funds Rate.

9. Security Interest

Any credit balances, securities, assets or related contracts, and all other property in which I may have an interest held by Fidelity or carried for my accounts shall be subject to a general lien for the discharge of my obligations to Fidelity, and Fidelity may sell, transfer, or assign any such assets or property to satisfy a margin deficiency or other obligation whether or not Fidelity has made advances with regard to such property.

Shares of any investment company in which I have an interest and for which Fidelity Management & Research Company serves as investment advisor and which are custodied, recordkept, or otherwise administered by an affiliate of Fidelity or NFS, also are subject to a general lien for the discharge of my obligations to Fidelity and NFS, and Fidelity and NFS may redeem any such shares to satisfy my obligation without further notice or demand. However, no provision of this agreement concerning liens or security interests shall apply to any account to the extent such application would be in conflict with any provisions of ERISA or the Internal Revenue Code relating to retirement accounts.

10. Settlement of Transactions

In the absence of a specific demand, all transactions in any of my accounts are to be paid for, securities delivered, or required margin deposited no later than 2 p.m. Eastern Time on the settlement date. Fidelity reserves the right to cancel or liquidate, at my risk, any transaction not timely settled. Margin calls are due on or before the date indicated regardless of the settlement date of any transaction.

11. Money Market Same-Day Trading and Settlement (SDS)

I agree that my use of the Money Market Fund Same-Day Settlement Program (SDS) is governed by the terms and conditions in this section. I understand and acknowledge that SDS purchase trades (buy orders) are funded by cash wired into my account on the day I place an SDS purchase trade (buy). I cannot use the available balance in my Core Transaction Account (defined below) to fund an SDS purchase trade. I understand that cash wired into my account and not used that day will settle overnight into my Core Transaction Account and

become ineligible to fund SDS purchase trades. Fidelity may cancel any purchase trade if I have not wired cash into my account by the last transmission intervals available for the SDS fund I want to buy. I understand that transmission intervals are determined by Fidelity and the applicable fund company at their discretion. Sale/redemption (sell order) proceeds will not be released to me until the wire is received by Fidelity. All orders must be placed during trading hours; overnight orders will not be accepted. Once an order has been transmitted to the fund company by Fidelity, it cannot be canceled. Retirement accounts are not eligible for this program.

12. Account Protection

Securities in accounts carried by NFS, a Fidelity Investments company, are protected in accordance with the Securities Investor Protection Corporation ("SIPC") up to \$500,000. The \$500,000 total amount of SIPC protection is inclusive of up to \$250,000 protection for claims for cash, subject to periodic adjustments for inflation in accordance with terms of the SIPC statute and approval by SIPC's Board of Directors. NFS also has arranged for coverage above these limits. Neither coverage protects against a decline in the market value of securities, nor does either coverage extend to certain securities that are considered ineligible for coverage. For more details on SIPC, or to request a SIPC brochure, visit sipc.org or call 1-202-371-8300.

13. Fidelity Equity Dividend Reinvestment Service Agreement

Upon my enrollment, I agree to the following terms and conditions governing the Fidelity Equity Dividend Reinvestment Service (the "Service") to be provided by Fidelity ("you" or "Fidelity") and its affiliate, National Financial Services LLC ("NFS"):

Provision of Fidelity Equity Dividend Reinvestment Service

My enrollment in the Service will be activated on the day I notify you by telephone, or within 24 hours after receipt of any written notification, that I wish to enroll an eligible security. Upon activation of my enrollment, I agree to be bound by this Fidelity Equity Dividend Reinvestment Service Agreement (this "Agreement") as well as any other agreements between us that apply to my brokerage account.

I may direct you to add the Service to either all eligible securities in my account or selected eligible individual securities. My enrollment authorizes you to automatically reinvest cash dividends and capital gain distributions paid on such eligible securities held in my account (collectively, "dividends") in additional shares of the same security.

To add or remove the Service with respect to securities in my account, I must notify you of my election on or before 9 p.m. Eastern Standard Time (EST) on the dividend record date for such security. If the dividend record date falls on a non-business day, then I must notify you on or before 9 p.m. EST one business day prior to the dividend record date for such security. Dividends will be reinvested on any shares of all enrolled securities provided that I own such shares on both the dividend record date and the dividend payable date.

Dividend reinvestment does not assure profits on my investments and does not protect against loss in declining markets.

You reserve the right to terminate or amend the Service and this Agreement at any time, including instituting commissions or transaction fees. Prior to the effective date of any such amendments, you shall send prior written notice thereof to me.

The reinvestment of dividends may be delayed in certain circumstances. NFS reserves the right to suspend or completely remove securities from participation in dividend reinvestment and credit such dividends in cash at any time without notice.

Eligible Accounts

The Service is available to Fidelity Brokerage customers who maintain cash, margin, or retirement brokerage accounts.

Eligible Securities

To be eligible for the Service, the enrolled security must be a closed-end fund or domestic common stock (including ADRs), which is margin eligible (as defined by NFS). In order for my enrollment to be in effect for a given security, my position in that security must be settled on or before the dividend record date. Foreign securities and short positions are not eligible for the Service. Eligible securities must be held in street name by NFS or at a securities depository on behalf of NFS.

If I attempt to enroll a security for which I have placed a buy limit order that has not been filled, my enrollment election will be held for five (5) consecutive business days, at which point I must notify Fidelity of my desire to re-enroll the security for another five (5) consecutive business days.

If I am holding a security in my account that is ineligible for enrollment, and the security subsequently becomes eligible, any existing account-level reinvestment instructions will take effect for that security.

Eligible Cash Distributions for Reinvestment

Most cash distributions from eligible securities selected for participation in the Service may be reinvested in additional shares of such securities, including cash dividends and capital gain distribution. Cash-in-lieu payments, late ex-dividend payments, and special dividend payments, however, may not be automatically reinvested. If I enroll a security in the Service, I must reinvest all of its eligible cash distributions. I understand that I cannot partially reinvest cash distributions. I also understand that I cannot use any other funds in my brokerage account to make automatic reinvestment purchases.

Dividend Reinvestment Transactions in Eligible Securities

On the dividend payable date for each security participating in the Service, you will credit my account in the amount of the cash dividend to be paid (less any amounts required by law or agreement to be withheld or debited). Two (2) business days prior to the dividend payable date, you will combine cash distributions from my account with those from other customers requesting dividend reinvestment in the same security and use these funds to purchase securities for me and the other customers on a best efforts basis. You will credit to my account the number of shares equal to the amount of my funds to be reinvested in a particular security divided by the purchase price per share. If several purchase transactions are required in order to reinvest my and other customers' eligible cash distributions in a particular security, the purchase price per share will be the weighted average price per share for all such shares purchased. Under certain conditions a dividend may be put on hold by the issuing company. If a dividend is on hold on the payable date, reinvestment will not be performed. If a dividend is released from hold status after dividend payable date, dividend reinvestment will be performed on the day the dividend is actually paid.

If I liquidate shares of an enrolled security between the dividend record and the business day prior to the payable date, such shares will not participate in the Service, and I will receive the dividend as cash in my core account. If I liquidate shares of an enrolled security on dividend payable date, such shares will participate in the Service.

I will be entitled to receive proxy voting materials and voting rights for an enrolled security based on my proportionate shares. For mandatory reorganizations, I will receive cash in lieu of my partial shares. For voluntary reorganizations, instructions I give you will be applied to my whole shares and the partial shares will be liquidated at market price.

Partial Shares

Automatic reinvestment of my eligible cash distributions may give me interests in partial shares of securities, which you will calculate to three decimal places. I will be entitled to receive dividend payments proportionate to my partial share holdings. If my account is transferred, if a stock undergoes a reorganization, or if stock certificates are ordered out of an account, partial share positions, which cannot be transferred, reorganized, or issued in certificate form, will be liquidated at the closing price on the settlement date. The partial share liquidation transaction will be posted to my account on the day following the settlement date. I may not liquidate partial shares at my discretion. If I enter an order to sell my entire whole share position, any remaining partial share position will be liquidated at the execution price of the sell and will be posted to my account on the settlement day. No commission will be charged for the liquidation of the partial share position.

Confirmations and Periodic Statements

In lieu of separate immediate trade confirmation statements, all transactions made through the Service will be confirmed on my regular periodic brokerage account statement. I may obtain immediate information regarding a dividend reinvestment transaction on the day

after the reinvestment date by calling my local Fidelity Investor Center or Fidelity's 24-hour toll-free number.

Continuing Effect of Authorization; Termination

I authorize you to purchase, for my account, shares of the securities I have selected for the Service. Authorizations under this section will remain in effect until I give you notice to the contrary on or before 9 p.m. EST on the dividend record date. If the dividend record date falls on a non-business day, then notice must be given on or before 9 p.m. EST at least one business day prior to the dividend record date. Such notice will not affect any obligations resulting from transactions initiated prior to your receipt of the notice. I may withdraw completely or selectively from the program. If I transfer my account within Fidelity, I must re-enroll my securities for reinvestment. Enrollment elections for securities that become ineligible for the Service will be canceled after 90 days of continuous ineligibility.

Optional Dividends

At times certain issuers that pay dividends may offer shareholders an opportunity to elect to receive stock or cash, or a combination of both. This is known as an "Optional Dividend." The issuer will assign a default if no instruction is received. For example, the default option could be cash, stock, or a combination of both. I have the opportunity up until the applicable deadline to make an election to receive the payment of my choice. I have been advised, if I do not make an election prior to the deadline, my account will be assigned a default election based on the dividend reinvestment program instructions I established with respect to my account. **This default election will be utilized in lieu of the issuer's default option being applied to my account.**

Depository Trust Company's (DTC) Dividend Reinvestment Program

For certain securities, dividend reinvestment may occur through DTC's Dividend Reinvestment Program. This plan may be utilized if an issuer offers reinvestment at a discount. Eligibility for a security to be enrolled in the DTC Dividend Reinvestment Program or the Fidelity dividend reinvestment program is determined by Fidelity and may change without notice. A dividend reinvestment transaction will post to my account when the shares are made available to Fidelity by DTC. Such transactions are generally posted within 15 days after pay date.

Note that dividend reinvestment does not ensure a profit on my investments and does not protect against loss in declining markets. If I sell my dividend-generating shares before the posting date, the dividend will not be reinvested.

14. Receipt of Communications

Communications may be sent to me at the U.S. postal or electronic mail address of record listed on my application or at such other address I may hereafter give Fidelity, and all communications so sent to me shall be deemed given to me personally, whether actually received or not. I understand that I should promptly and carefully review the transaction confirmations and periodic statements and notify Fidelity immediately of any errors. Information contained on transaction confirmations and account statements is conclusive unless I object in writing immediately after its being transmitted to me or my Authorized agent(s)/Advisor(s).

All account communications for the account being established with this application will be sent to the account address in conjunction with the paper or electronic delivery preference on the account and be deemed to have been received by all account holders at such address.

15. Monitoring My Account and Notifying Fidelity of Errors

As an account owner, I am responsible for monitoring my account. This includes making sure that I am receiving transaction confirmations, account statements, and any other expected communications. It also includes reviewing these documents to see that information about my account is accurate and contains nothing suspicious. In addition, confirmations and statements are legally presumed to be accurate unless I specifically tell Fidelity otherwise. If I have not received a communication I expected, I will contact Fidelity, then follow up with written confirmation. I agree to notify Fidelity immediately if:

- I placed an order electronically but did not receive a reference number for it (an electronic order is not considered received until Fidelity has issued an acknowledgment)

- I received confirmation of an order I did not place, or any similar conflicting report
- there is any other type of discrepancy or suspicious or unexplained occurrence relating to my account
- my password or access device is lost or stolen, or I believe someone has been using it without authorization

If any of these conditions occurs and I fail to notify Fidelity immediately, neither Fidelity nor any other Fidelity affiliate will be liable for any consequences. If I do immediately notify Fidelity, Fidelity's liability is limited as described in this agreement. With any feature or service that is governed by a separate agreement (such as an options trading agreement), note that different policies concerning error resolution and liability may apply, as described in the separate agreement. If, through any error, I have received property that is not rightfully mine, I agree to notify Fidelity and to immediately return the property and any earnings it may have yielded. If Fidelity identifies an error in connection with property I have received from or through Fidelity or a Fidelity affiliate and determines it is not rightfully mine, I agree that Fidelity may take action to correct the error, which may include returning such property to the rightful owner.

16. Periodic Reports

I will receive a statement of all transactions quarterly, and monthly in the months where there is activity in my account, unless I have authorized on the application to direct all written trade confirmations to my Authorized agent(s)/Advisor(s) in lieu of sending them to me directly. If I have elected to receive quarterly account statements detailing all trade confirmations in lieu of immediate trade confirmations, I understand that receiving quarterly account statements impacts my ability to monitor as promptly the trading activity and investment decisions made by my Authorized agent(s)/Advisor(s). I acknowledge my Authorized agent(s)/Advisor(s) is my fiduciary and has investment discretion over the account, that Fidelity has no responsibility for the trading activity in the account or for monitoring the trading in my account, and that Fidelity's role is limited to carrying out my Authorized agent's/Advisor's instructions relating to the trading activity and investments in my account. I can revoke these instructions with written notice to you. The brokerage statement will detail: securities bought or sold in my securities account, whether on margin or on a fully paid basis; all purchases of merchandise, services, and cash advances made with the check or debit card; redemption checks; margin loans and repayments and interest charges, if any; the number of fund shares that were purchased or redeemed for me; and electronic funds transfers and monthly fees assessed.

By authorizing Fidelity to deliver prospectuses to my Authorized agent(s)/Advisor(s) in lieu of sending them to me, I acknowledge that I will not receive prospectuses on securities held in my account and that it is my responsibility to evaluate the appropriateness of trading decisions made by my Authorized agent(s)/Advisor(s).

17. Extraordinary Events

Fidelity shall not be liable for loss caused directly or indirectly by government restrictions, exchange or market rulings, suspension of trading, war, strikes, or other conditions beyond its control, including, but not limited to, extreme market volatility or trading volumes.

18. Choice of Marketplace

I understand and acknowledge that when securities can be traded in more than one marketplace, in the absence of specific instructions from me, Fidelity may use its discretion in selecting the market in which to enter my orders.

19. Payment for Order Flow

Fidelity transmits customer orders for execution to various exchanges or market centers based on a number of factors. Such factors include: size of order, trading characteristics of the security, favorable execution prices (including the opportunity for price improvement), access to reliable market data, speed of execution, liquidity enhancement opportunities, availability of efficient automated transaction processing, and reduced execution costs through price concessions from the

market centers. Certain of the market centers may execute orders at prices superior to the publicly quoted market in accordance with their rules or practices. While a customer may specify that an order be directed to a particular market center for execution, the order-routing policies, taking into consideration all of the factors listed above, are designed to result in favorable transaction processing for customers. Fidelity will furnish payment for order flow and order routing policies to me on an annual basis.

Fidelity receive(s) remuneration, compensation, or other consideration for directing customer orders for equity securities to particular Broker-Dealers or market centers for execution. Such consideration, if any, takes the form of financial credits, monetary payments, or reciprocal business.

Note: Orders placed through Fidelity's telephone, electronic, wireless, or online trading systems cannot specify a particular market center for execution.

20. Purchase of Precious Metals

If I direct Fidelity to purchase precious metals for me, I understand: (a) the Securities Investor Protection Corporation (SIPC) does not provide protection for precious metals, but if stored through Fidelity, they are insured by the depository at market value; (b) precious metals are not marginable; (c) precious metal investments can involve substantial risk due to rapid and abrupt price changes and, therefore, Fidelity cannot guarantee an advantageous purchase or liquidation price; and (d) if I take delivery of my metals, I am subject to delivery charges and applicable sales and use taxes.

21. Callable Securities Lottery

When street name or bearer securities held for me are subject to a partial call or partial redemption by the issuer, Fidelity may or may not receive an allocation of called/redeemed securities by the issuer, transfer agent, and/or depository. If Fidelity is allocated a portion of the called/redeemed securities, Fidelity utilizes an impartial lottery allocation system, in accordance with applicable rules, that randomly selects the securities within customer accounts that will be called/redeemed. Fidelity's allocations are not made on a pro rata basis and it is possible for me to receive a full or partial allocation, or no allocation. I have the right to withdraw uncalled fully paid securities at any time prior to the cutoff date and time established by the issuer, transfer agent, and/or depository with respect to the partial call, and also to withdraw excess margin securities provided my account is not subject to restriction under Regulation T or such withdrawal will not cause an undermargined condition. A more detailed description of the Lottery Process may be accessed by visiting Fidelity.com/callable-securities. I may also request a hard copy of the Lottery Process by writing to National Financial Services LLC, P.O. Box 770001, Cincinnati, OH 45277.

22. Fractional Share Trading

Fidelity's fractional share trading functionality allows me to buy and sell fractional share quantities and dollar amounts of certain securities ("Fractional Trading"). Fractional Trading presents unique risks and has certain limitations that I should understand before placing my first trade.

Trading

Orders to buy or sell may be entered using either a fractional share quantity (e.g., 2.525 shares) or a dollar value (e.g., \$250.00). Share quantities can be specified to three decimal places (.001). Dollar-value orders will be converted into share quantities for execution, again, to three decimal places. In all cases, when converting dollar-value orders into share quantities, the share quantities will be rounded down. For a variety of reasons, including but not limited to this conversion convention, the actual amount of an executed dollar-value trade may be different from the requested amount. The actual amount of an executed order to buy or sell a dollar value of a security may also be lower than the amount requested due to the deduction of certain commissions, fees (e.g., the Additional Assessment), or taxes. Commissions are calculated on a per order basis and/or based on the number of shares traded. Fractional shares will be treated as whole

shares for the commission calculation and any applicable commission charges will apply. I can contact my Authorized agent/Advisor for more information on the commissions and fees that apply to my account. Orders received in good form by Fidelity Brokerage Services LLC (FBS) will be accepted and transmitted to National Financial Services LLC (NFS) for execution. I may attempt to cancel an order, but there is no ability to request that an order be "cancelled and replaced" (i.e., I cannot modify an order once it has been submitted). Instead, I will need to cancel my order and then submit a new one. Fractional Trading supports market and limit orders only for fractional share quantities of a security that are good for that day's trading session, or in the case of an order entered outside of market hours, that are good until the close of the next trading session. Because of this, my ability to buy or sell a security using Fractional Trading may be more restricted than if I were to buy or sell traditional whole share quantities of the same security. In the event of a trading halt of a security, Fractional Trading of that security will also be halted, and my order will be held until trading resumes. However, my order is good only for that day's trading session, or in the case of an order entered outside of market hours, good until the close of the next trading session. If trading does not resume or my order is not executed by the close of that day's Fractional Trading window, it will be cancelled. I can generally trade exchange-listed National Market System ("NMS") stocks using the Fractional Trading functionality. However, certain NMS stocks may not be made available for Fractional Trading, and Fidelity reserves the right to modify the list of eligible NMS stocks at any time without notice to me. Any modification to the list of eligible NMS stocks available for Fractional Trading will not affect any fractional share interests previously acquired by me. Additionally, I may not be able to place trades through some of Fidelity's order entry platforms (e.g., Fractional Trading may be available via mobile device and on *Fidelity.com* but not through the live representative channel, or if I work with an investment adviser or Family Office, may not be available through those representatives or the platforms they use).

Trade Execution

FBS will act as my agent and NFS will act in either a principal or a mixed capacity (i.e., both as agent and principal) when executing my order. The whole share component of any order will be executed by NFS as agent at the price NFS receives in the market. The fractional share component of any order will be executed by NFS as principal against its principal account. When a fractional share interest is allocated to my account, NFS will maintain custody of the whole share in which I have the fractional interest. Any fractional share interest in the whole share not allocated to my account may be allocated to other customers or to NFS as principal. All orders with a fractional share component will be marked "Not Held," which gives Fidelity the time and price discretion to execute the order without being held to the security's current quote. In connection therewith, each time I submit an order to buy or sell a fractional share quantity or dollar amount of a particular security, I authorize NFS to "work the order." If I do not wish my order to be handled on a Not Held basis, I should not engage in Fractional Trading. In the case of a sale of the fractional component of any order, that sale will be executed at the then current National Best Bid or Offer ("NBBO"). I am aware that this price may be higher or lower than the price at the time I place my order. In the case of a purchase of the fractional component of any order, if NFS has sufficient principal inventory, that purchase will also be executed at the then current NBBO. However, if NFS does not have sufficient principal inventory, that purchase will be executed at the price received in the market. For orders placed prior to market open, Fidelity may wait for the primary exchange to open before commencing trading in a particular security. When trading as principal for its own account, NFS may make a profit or incur a loss on each trade. Additionally, NFS may be required to correct or adjust trades that (for a variety of reasons) have been executed in amounts that either exceed or fall short of the amounts requested. These trade corrections and adjustments could arise in connection with either or both of the agency and principal components of the executed orders. Regardless, these trade corrections and adjustments will be executed by NFS in a principal capacity, and when trading as principal for its own account, NFS may make a profit or incur a loss.

Shareholder Rights

Fractional share interests in an NMS security generally have different rights from full share interests of the same NMS security. I will read the following information carefully to understand my rights regarding my fractional share interests. Fractional share positions cannot be transferred or certificated. The Automated Customer Account Transfer System does not support fractional share positions. If I want to transfer my account or specific share positions to another broker, I must sell my fractional positions and transfer the cash proceeds. I hereby direct NFS, and NFS hereby agrees, not to vote or take any discretionary or voluntary action with respect to any fractional share position. Furthermore, I acknowledge that I cannot vote or take any discretionary or voluntary action with respect to any fractional share position. Accordingly, while NFS may notify me of issuer meetings, NFS will not solicit proxies in connection with fractional share positions, and neither my Authorized agent/Advisor nor I can vote proxies for fractional share positions. Fractional shareholders will not be able to provide instruction in connection with voluntary corporate actions (e.g., tenders), except for optional dividends; and NFS will not vote proxies for any fractional shares it holds as principal and will not affirmatively participate in any voluntary corporate actions.

In the case of a dividend paid on, or a redemption of, an NMS security, the dividend or redemption proceeds will be passed along to me in proportion to my ownership interest, inclusive of fractional share interests. NFS will only support payments that are equal to or greater than \$0.01 per share. Amounts smaller than that, or nondivisible amounts (based on the .001 rounding convention described above), will be handled in accordance with the process described in the section titled "Undistributable Interests" below.

Holders of fractional share positions may participate in dividend reinvestment programs ("DRIPS") to the same extent as if they owned a full share (adjusted for their fractional share interest in the dividend). In the event that the amount is too small to be reinvested (based on the .001 rounding convention described above), but large enough to be distributed as cash (i.e., at least \$0.01), it will be paid to me. Smaller amounts will be handled in accordance with the process described in the section titled "Undistributable Interests" below.

For mandatory reorganizations, such as mergers and acquisitions, or other involuntary corporate actions, such as stock splits or stock dividends, typically NFS will distribute interests in proportion to my ownership interest, inclusive of fractional share interests. NFS will distribute interests in fractional amounts to three decimal places. Amounts smaller than that, or nondivisible amounts, will be handled in accordance with the process described in the section titled "Undistributable Interests" below. The foregoing notwithstanding, these situations are in all cases subject to the terms contained in the materials prepared by the issuer describing the corporate action, as well as NFS's applicable policies and procedures, which may result in a different outcome from what is described herein. Because of the unpredictable nature of corporate actions, there may be situations that arise that are not described previously. Generally, these situations will be handled in accordance with the concepts applicable to dividends and reorganizations. Interests will be divided and distributed where possible in proportion to my ownership interest, and anything that cannot be divided will be handled in accordance with the process described in the section titled "Undistributable Interests" below. The foregoing notwithstanding, these situations are in all cases subject to the terms contained in the materials prepared by the issuer describing the corporate action, as well as NFS's applicable policies and procedures, which may result in a different outcome from what is described above.

Undistributable Interests

NFS will only support payments that are equal to or greater than \$0.01 per share. Amounts smaller than that, or nondivisible amounts (based on the .001 rounding convention described above), will not be distributed. Instead, it is generally but not always the case that when the aggregate value to be distributed is less than or equal to \$1.00, it will be retained by NFS, and when it exceeds \$1.00, it will be escheated.

Tax Treatment

NFS and I agree to treat me as the owner of all fractional share interests allocated to my account, to file all tax returns in accordance with such treatment, and to take no action inconsistent with such treatment.

Additional Considerations

Fractional share positions may be illiquid. NFS does not guarantee that there will be a market for fractional share positions and makes no representations or warranties about its ability or willingness to continue to trade as principal in fractional share quantities. If my account is closed, my fractional shares may be liquidated and the proceeds distributed to me as cash. The fractional share component of certain orders may not be eligible for "Price Improvement." Also, Price Improvement will operate differently, and in some situations less advantageously, in connection with Fractional Trading from the way it would if I were trading in whole share quantities. Additionally, because in certain situations Price Improvement on the fractional share component of an order will affect the execution price rather than the share quantity of an order, the effect of the improvement on a dollar-value order in those situations will be to increase or decrease the value of the order outside of what was requested. If my account has been approved for margin, notwithstanding the terms of the Customer Agreement, Fidelity will not lend (hypothecate) my fractional share positions. If I hold fractional share positions in my account (these positions come about for a variety of reasons, such as DRIPs or corporate actions), it has been Fidelity's practice to automatically sell these holdings when I place an order to sell my entire whole share position ("Auto-liquidate"). The first time I place an order to buy or sell a security using the Fractional Trading functionality, Fidelity will turn off the Auto-liquidate feature in my account so that going forward, those positions will be handled like any other fractional share position acquired using Fractional Trading (i.e., I will need to affirmatively sell those fractional share positions if I wish to sell my entire position in that security).

23. Modification and Miscellaneous

I understand that no provision of this Agreement can be amended or waived except by Fidelity and I agree to the terms and conditions set forth in this Client Agreement as they are today and as they be amended in the future. If any provision of this Agreement becomes inconsistent with any present or future law or regulation of any entity having regulatory jurisdiction over it, that provision will be superseded or amended to conform with such law and regulation, but the remainder of this Agreement remains in full force and effect.

The failure of Fidelity at any time to require performance by me or my Authorized agent(s)/Advisor(s) of any provision of these terms and conditions will not limit the right to require such performance at any time thereafter. Fidelity reserves the right, at its sole discretion and without prior notice, to restrict or limit any transaction or series of transactions in any investment company advised or managed by Fidelity or its affiliates that Fidelity determines may adversely affect the investment company or its shareholders. Any failure to provide accurate trading or allocation instruction, including options transactions, may result in losses in my account. I may not assign this or any related agreement without the prior written consent of Fidelity.

This Agreement and its enforcement shall be governed by the laws of the Commonwealth of Massachusetts; shall cover individually and collectively all accounts that I may open or reopen with Fidelity; and shall inure to the benefit of Fidelity's successors and assigns, whether by merger, consolidation or otherwise. Fidelity may transfer my account to my successors and assigns, and this agreement shall be binding upon my heirs, executors, administrators, successors and assigns.

24. Core Transaction Account

I understand and agree that my Fidelity Account includes a Core Transaction Account that holds assets awaiting further investment or withdrawal. I understand that I may have only one Core Transaction Account product available to me. The Core Transaction Account option(s) for my Account is listed on my Account application. If the Core Transaction Account option for my account is FCASH, I understand that FCASH is an interest-bearing free credit balance, it

has no separate fees, it is not a money market mutual fund or a bank deposit account and is not covered by FDIC insurance. FCASH is a different from the Intra-day Free Credit Balance described in this Agreement. Fidelity may, but is not required to, pay interest on my FCASH balance. Any interest paid on my FCASH balance is taxable. Eligibility for Core Transaction Account options may depend on my account type or if my Authorized agent/Advisor has an arrangement with Fidelity to use a different Core Transaction Account option. Other Core Transaction Account options may include the Bank Deposit Sweep Program, which is an FDIC-insured deposit account, or a Fidelity money market fund.

I understand that Fidelity may receive an economic benefit from my Core Transaction Account. If my Core Transaction Account is invested in FCASH, Fidelity and its affiliates earn interest when investing the funds overnight. If my Core Transaction Account is invested in a Fidelity money market fund, Fidelity and its affiliates earn management and other fees as described in the fund's prospectus. If my Core Transaction Account option is a Bank Deposit Sweep Program FDIC-insured deposit account, Fidelity and its affiliates receive a fee and interest payments from the bank receiving deposits through the program. For more information, I can refer to the FDIC-Insured Deposit Sweep Program Disclosure document. Current interest rate tiers and yields on Core Transaction Account options are posted on *Fidelity.com*.

In certain circumstances, Fidelity and/or my Authorized agent/Advisor may choose to limit the Core Transaction Account product options available to me. I understand that if I select a core transaction option on my account application that is not available to me, my core transaction account will be FCASH. I understand that the Core Transaction Account option(s) available to me may compensate Fidelity more than other investment options and yield less to me. I understand that depending on a variety of factors, including but not limited to market conditions and the interest rate environment, certain Core Transaction Account product options may offer higher yields than others. I will consult with my Authorized agent/Advisor to determine if the Core Transaction Account product option(s) available to me through Fidelity are appropriate for me. I understand that I should compare the terms, interest rates, APY, rates of return, required minimum amounts, risks, insurance, charges and other features with other products and investment options before deciding to maintain balances in my Core Transaction Account. I understand that I and/or my Authorized agent/Advisor may take action to move cash from my Core Transaction Account into other investments, including other cash products or cash alternatives. Other products may pay a higher yield than is provided by the Core Transaction Account option available to me.

I understand that the Core Transaction account is subject to prior payment by me, and on my behalf, of any outstanding margin loan balances or other debit items or authorized payments of securities account settlements. I authorize Fidelity to change my core transaction account option at its discretion with notice to me when required. I agree to indemnify and hold Fidelity harmless for any actions that might result from Fidelity changing my core transaction account option. My account statement details all activity in the Core Transaction Account. This is provided in lieu of a confirmation that might otherwise be provided by Fidelity with respect to those transactions. Any free credit balances in the securities account (i.e., any cash that may be transferred out of the securities account without giving rise to interest charges) automatically will be invested in my Core Transaction Account and be paid monthly. A variable rate of interest may be paid on free credit balances held overnight awaiting reinvestment (excluding any short credit balances) providing that accrued interest for any particular day equals or exceeds \$.0050. The variable rate of interest paid will be determined by the daily balance in the account. Fidelity reserves the right to increase or decrease the rate at any time without notice. I acknowledge that I have received the description of the Core Transaction Account and available options in the Account Application and Agreement, including Fidelity's right to change the options available to me, and consent to having free credit balances held or invested in the Core Transaction Account.

In the event I hold a money market mutual fund as my Core Transaction Account that is subject to a liquidity fee or redemption gate (as described in more detail in the fund's prospectus), upon notice to

Fidelity by the fund that a liquidity fee or redemption gate has been imposed, Fidelity will remove the impacted fund from my Core Transaction Account and I will hold that fund as a non-core position in my account. Any future core transaction sweeps to the impacted money market mutual fund will cease and amounts in my account awaiting reinvestment will be held in a fee credit balance as described in this agreement. The cash available and running collected balance in my account will be reduced by the amount of the value of the impacted money market mutual fund. Payment of debit items from my account will continue to be paid as described in this agreement, but Fidelity will only pay items from a money market fund that has imposed a liquidity fee as part of that payment process after the other sources are attempted. Fidelity and/or my Authorized agent/Advisor will help facilitate the selection of a different Core Transaction Account.

I could lose money by investing in a money market fund. Although the fund seeks to preserve the value of my investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund sponsor has no legal obligation to provide financial support to the fund, and I should not expect that the sponsor will provide financial support to the fund at any time.

Fidelity's government and U.S. Treasury money market funds will not impose a fee upon the sale of my shares, nor temporarily suspend my ability to sell shares if the fund's weekly liquid assets fall below 30% of its total assets because of market conditions or other factors.

I understand and agree that Fidelity may change my core account selection with notice to me when required. I may make a different core account selection from available options. I can contact my Authorized agent/Advisor or Fidelity to change my core account option.

Fidelity may change the interest rates and annual percentage yields (APY) for the money market mutual fund options available for the Core Transaction Account without prior notice to me. Fidelity will notify me of changes to the terms and conditions of products available through the Core Transaction Account. The notice will describe the new terms, conditions or products. I may ask Fidelity to remit my available cash balances to me, or place them in another core account option for which I am eligible.

If my account is eligible (as defined in the Bank Deposit Sweep Program (BDSP) Disclosure documents), and a BDSP is available, a BDSP may be selected as the Core Position in my Account. If elected by me or my Authorized agent/Advisor at any time, the cash balance in my core account will be swept to an FDIC insurance-eligible interest-bearing account at a Bank(s), subject to applicable FDIC insurance coverage limits. Cash balances held at each Bank will be eligible for FDIC insurance up to \$250,000 (principal plus accrued interest) per depositor in each insurable capacity (i.e., individual, joint, etc.) per Bank, in accordance with applicable FDIC rules. All deposits (for example, deposits I may make at the Bank outside of the Bank Deposit Sweep Program plus the Bank Deposit Sweep Program cash balance) held by an individual in the same right and legal capacity and at the same Bank are insured up to \$250,000 as described above. Joint accounts owned by two individuals are insured up to \$250,000 as described above for each co-owner (again, in the aggregate for all joint account Bank Deposit Sweep Program and non-Bank Deposit Sweep Program joint account balances) at each Bank. Special rules apply to insurance of trust deposits. The amount of FDIC coverage will be limited by the number of Banks in the Bank Deposit Sweep Program, the number of Banks in which my money is deposited, and other factors as more fully described in the Bank Deposit Sweep Program Disclosure Documents. All FDIC insurance coverage is in accordance with FDIC rules. I understand my account must continue to remain eligible for the BDSP as defined in the BDSP Disclosure documents. Beginning on or around June 30, 2022, Cash Balances that cannot be placed at a Program Bank due to capacity limits, shall be swept to a Money Market Overflow as described herein. In the event that I have funds swept to a Money Market Overflow, it will have a material impact on my insurance coverage, how interest is calculated, and how funds are placed and withdrawn.

If at any time a Bank Deposit Sweep Program is not available for investment, including the Money Market Overflow, I understand the

core account option will be the then-current default option for that applicable account type until such time as I or my Authorized agent/Advisor elect otherwise.

Bank(s) in a Bank Deposit Sweep Program are eligible to receive some or all of my cash balances as more fully described within the BDSP Disclosure Documents. Once deposited at a Bank(s), my cash balance is eligible for FDIC insurance subject to applicable FDIC insurance coverage limits. Note that the Bank Lists may be different for each Bank Deposit Sweep Program and for each account I own, and may change from time to time. I may contact my Authorized agent/Advisor or Fidelity at any time to request a copy of the BDSP Disclosure Documents or a Bank List, to obtain the current balances I may have in a Bank, or to opt out of a Bank in my list. I may not be able to opt out of all of the Banks in the program.

Cash balances held on my behalf at a Bank(s) earn a rate of interest that will vary over time and can change without prior notice to me. For more information about interest rates I can refer to the BDSP Disclosure Documents. For current interest rates and information about comparable investment options, I can contact my Authorized agent/Advisor or visit [Fidelity.com](https://www.fidelity.com).

IMPORTANT: In the event that my total assets at a Bank (including assets held in multiple accounts at Fidelity Brokerage Services or assets that I hold with a Bank(s) outside of the BDSP) exceed the FDIC insurance limits, my assets in excess of FDIC limits are not covered by SIPC or insured by FDIC.

A Bank Deposit Sweep Program is not a security and therefore not SIPC insured. Funds received into an account are immediately covered by SIPC (up to applicable SIPC coverage limits) but once my cash balance is deposited at a Bank(s), it is no longer covered by SIPC (subject to applicable SIPC rules). The deposit is eligible for FDIC insurance subject to FDIC insurance coverage limits and in accordance with FDIC rules. All of the account holder's assets at a Bank, including assets outside the BDSP, will generally be counted toward the FDIC aggregate limit. In accordance with the BDSP Disclosure Documents, customers are responsible for monitoring their total assets at a Bank to determine the extent of available FDIC insurance.

I understand that I am responsible for monitoring my total assets at a Bank(s) including assets held in multiple accounts at Fidelity or assets that I hold with Banks outside of a Bank Deposit Sweep Program to determine the extent of available FDIC insurance. Information regarding deposits at Banks can be found on account statements. All FDIC insurance coverage is in accordance with FDIC rules. For additional information see the Bank Deposit Sweep Program Disclosure Documents or the Bank Deposit Direct Investment Disclosure Document.

Amounts in excess of FDIC limits in any Bank, assets held in multiple accounts at Fidelity Brokerage Services or assets that I hold with Banks outside of a Bank Deposit Sweep Program or a Bank Deposit Direct Investment exceed the FDIC insurance limits, my assets in excess of FDIC limits are not covered by SIPC or insured by FDIC. For more information about FDIC insurance coverage, visit the FDIC website at [FDIC.gov](https://www.fdic.gov) or call 877-ASK-FDIC.

Money Market Overflow Component of the BDSP

Certain events will result in the sweeping of Cash Balances into a money market mutual fund instead of Program Banks—this feature is called the Money Market Mutual Fund Overflow ("MMKT Overflow"). The events for sweeping of funds into the MMKT Overflow may include: if the Program does not have sufficient deposit capacity to accept deposits, or a Program Bank(s) reduces the deposit capacity available to the Program, any Cash Balances that cannot be placed at a bank(s) will then be swept into the MMKT Overflow. The enhanced sweep process between my Account, the Program Deposit Account, and the MMKT Overflow is referred to together as the "Program" and may also be included in the definition of my "Core Transaction Account." The Fidelity Government Money Market: "S" Class fund is the money market mutual fund that will be utilized for the MMKT Overflow (the "MMKT Overflow Fund"). Balances will sweep into the Program Banks as described herein. If, however, the Program Banks are unwilling or unable to accept funds, these funds will be swept to the "MMKT Overflow" rather than the Program Bank(s).

My Program Deposit is also automatically “swept out of” a Program Deposit Account as necessary to satisfy debits in my Account. However, in the event I have Cash Balances in the MMKT Overflow, the Cash Balances will first be debited from the MMKT Overflow Fund, then from Program Banks.

Debits in my Account associated with certain actual or anticipated transactions to generate a debit in my Account during the business day will first be settled using proceeds from the redemption of any shares of the MMKT Overflow Fund first, then withdrawal of Program Deposits that are swept out on such business day. Other debits will be settled using proceeds from redemption of any shares of the MMKT Overflow Fund first, then the withdrawal of Program Deposits that are swept out on the next business day.

In the event that additional capacity becomes available at the Program Banks, any Cash balances in the MMKT Overflow Fund will remain and will not automatically be transferred or rebalanced into newly open and/or available Program Banks. Other than being used to satisfy debits or withdrawals in the account, funds will remain in the MMKT Overflow.

In the event there is a Cash Balance held in the MMKT Overflow, the rate of return for a money market fund is typically shown for a seven-day period. It is typically expressed as an annual percentage rate. It is referred to as the “7-day yield” and may change at any time based on the performance of the investments held by the money market fund. The effective yield on a money market fund reflects the effect of compounding of interest over a one-year period.

In general, a money market mutual fund earns interest, dividends, and other income from its investments, and distributes this income (less expenses) to shareholders as dividends. Each fund may also realize capital gains from its investments, and distributes these gains (less losses), if any, to shareholders as capital gain distributions.

Distributions from a money market fund consist primarily of dividends. A money market fund normally declares dividends daily and pays them monthly. Funds held in the MMKT Overflow begin earning the dividend accruals on the day they are received by the MMKT Overflow Fund and stop accruing dividends on the day they are withdrawn. For additional information on returns of the MMKT Overflow Fund, see the fund’s prospectus. The statement for my Account will indicate the balance in my core account including my Program Deposit balance at each Program Bank and MMKT Overflow (if applicable) as of the last business day of each monthly statement period.

If funds are swept from a Program Deposit Account into the MMKT Overflow, such funds will no longer be eligible for FDIC insurance but will be subject to SIPC protection, up to certain limits as further described above. More details about the MMKT Overflow Fund can be found in the MMKT Overflow Fund’s prospectus, which will be made available to me when applicable. From time to time, and as part of the management of the Program, if additional deposit capacity becomes available, Fidelity may periodically sweep funds out of the MMKT Overflow. I will be notified in advance of any MMKT Overflow Fund Rebalance Event. Notice will be provided to me in writing. In addition, the notice will inform me of approximately when such Rebalance Event will be implemented. Continued use of my Account and/or the Program after notice of a Rebalance Event will constitute my consent to such an event and the changes described therein.

The MMKT Overflow Fund is a money market mutual fund offered by Fidelity Management and Research Company (“FMR Co.”). FMR Co. will receive management and other fees for assets held in the MMKT Overflow Fund, as more fully described in the fund’s prospectus. I will review the BDSP Disclosure Document for more details.

Core Options for Non-U.S. Customers

If Fidelity determines that I am a non-U.S. customer at any point in time after I open this account (e.g., as a result of a subsequent change of address) and I use a core transaction option that is not available to non-U.S. Customers, my core account will not operate as described above, but will be subject to the terms and conditions as described below.

If I have an existing account that utilizes any option for my core option other than the Taxable Interest Bearing Option, FCASH, the process of sweeping the Intra-day Free Credit Balance to my core account

will be suspended. I will be able to liquidate that position should I elect to do so, I will generally be unable to add to it for so long as Fidelity determines I am a non-U.S. customer, except for automatically reinvested dividends on money market fund positions and the deposit of accrued interest in the case of a bank sweep. As a result, uninvested cash in the Account will be held in the Intra-day Free Credit Balance. I also may be unable to make any change to my core option election, except that I may change my election to the Taxable Interest Bearing Option, if that option is available to me. Should I make that change, my core account will operate as if I had an existing account that utilizes the Taxable Interest Bearing Option.

In the event I hold an offshore fund as my Core Transaction Account that is subject to changes that impact Fidelity’s ability to support that fund as the core option, upon notice to Fidelity by the fund that such a change has been imposed, Fidelity will remove the impacted fund from my Core Transaction Account and I will hold that fund as a non-core position in my account. Any future core transaction sweeps to the impacted money market mutual fund will cease and amounts in my account awaiting reinvestment will be held in a free credit balance as described in this agreement. The cash available and running collected balance in my account will be reduced by the amount of the value of the impacted money market mutual fund. Payment of debit items from my account will continue to be paid as described in this agreement, but Fidelity may only pay items from a money market fund that has imposed a liquidity fee as part of that payment process after the other sources are attempted. Fidelity and/or my Authorized agent/Advisor will help facilitate the selection of a different Core Transaction Account.

Should Fidelity determine I am no longer a non-U.S. customer, if my account was subject to a suspension, this suspension will be lifted, the Intra-day Free Credit Balance will be swept to my core account and held in the core option that I selected or defaulted into, and on a going-forward basis my account will operate as otherwise described herein.

Credits to My Account

During normal business hours (“Intra-day”), activity in my account such as deposits and the receipt of settlement proceeds are credited to my account and may be held as a free credit balance (the “Intra-day Free Credit Balance”).

Activity in my account such as deposits and the receipt of settlement proceeds may also occur after the cut-offs described above, or on days the market is not open and the Fedwire Funds Service is not operating (collectively “After-hours”). Those amounts are credited to my account and may be held as a free credit balance (the “After-hours Free Credit Balance”).

Like any free credit balance, the Intra-day and After-hours Free Credit Balances represent amounts payable to me on demand by Fidelity. Subject to applicable law, Fidelity may use these free credit balances in connection with its business. Fidelity may, but is not required to, pay me interest on free credit balances held in my account overnight; provided that the accrued interest for a given day is at least half a cent. Interest, if paid, will be based upon a schedule set by Fidelity, which may change from time to time at Fidelity’s sole discretion.

Interest paid on free credit balances will be labeled “Credit Interest” in the Investment Activity section of my account statement. Interest is calculated on a periodic basis and credited to my account on the next business day after the end of the period. This period typically runs from approximately the 20th day of one month to the 20th day of the next month, provided, however, that the beginning and ending periods each year run, respectively, from the 1st of the year to approximately the 20th of January, and approximately the 20th of December to the end of the year. Interest is calculated by multiplying my average overnight free credit balance during the period by the applicable interest rate, provided, however, that if more than one interest rate is applicable during the period, this calculation will be modified to account for the number of days each period during which each interest rate is applicable.

If I Utilize a Fidelity Money Market Fund as My Core Position

If I utilize a Fidelity money market fund as my core position, the Intra-day Free Credit Balance, if any, generated by activity occurring prior to

the market close each business day (or 4:00 PM ET on business days when the market is closed and the Fedwire Funds Service is operating) is automatically swept into my core account and invested in my core position at the market close.

There will be additional automatic sweeps into my core account early in the morning prior to the start of business on each business day that will also be invested in my core position at that time. These will include my After-hours Free Credit Balance along with credit amounts attributed to certain actual or anticipated transactions that would otherwise generate an Intra-day Free Credit Balance on such business day.

If I Utilize the BDSP as My Core Position

If I utilize the BDSP as my core position, the Intra-day Free Credit Balance, if any, as well as any After-hours Free Credit Balance generated by activity occurring prior to Fidelity's nightly processing cycle are automatically swept into my core account as part of that nightly cycle (the "Evening Bank Sweep") and reflected in my Account as Program Deposits in anticipation of the deposit process described below occurring on the next business day.

There will be an additional automatic sweep into my core account early in the morning prior to the start of business on each business day that will also be invested in my core position at that time (the "Morning Bank Sweep"). This will include credit amounts attributed to certain actual or anticipated transactions that would otherwise generate an Intra-day Free Credit Balance on such business day.

The total amount of the Evening Bank Sweep and the Morning Bank Sweep is referred to as my Cash Balance. In the morning of the business day of the Morning Bank Sweep, my Cash Balance will be deposited in an FDIC-insured interest-bearing account (a "Program Deposit Account") at one or more participating banks (each, a "Program Bank"). The amounts on deposit are collectively referred to as my Program Deposits, and Program Deposits are eligible for FDIC insurance. My Program Deposit will earn interest, provided that the accrued interest for a given day is at least one cent.

If I Utilize the Interest Bearing Option (FCASH) as My Core Position

If I utilize FCASH as my core position, the Intra-day Free Credit Balance, if any, as well as any After-hours Free Credit Balance generated by activity occurring prior to Fidelity's nightly processing cycle is automatically swept into my core account as part of that nightly cycle and held in the Interest Bearing option.

Each check or Automated Clearing House deposit (ACH) deposited is promptly credited to my account. However, the money may not be available to use until up to six business days later, and Fidelity may decline to honor any debit that is applied against the money before the deposited check or ACH has cleared. If a deposited check or ACH does not clear, the deposit will be removed from my account, and I am responsible for returning any interest I received on it. Note that Fidelity only can accept checks denominated in U.S. dollars and drawn on a U.S. bank account (including a U.S. branch of a foreign bank). In addition, if Fidelity has reason to believe that assets were incorrectly credited to my account, Fidelity may restrict such assets and/or return such assets to the account from which they were transferred.

Debits to My Account

Deferred debit card charges are debited monthly. All other debit items (including checks, debit card transactions, bill payments, securities purchases, electronic transfers of money, levies, court orders, or other legal process payments) are paid daily to the extent that sufficient funds are available. Note that debits to resolve securities transactions (including margin calls) will be given priority over other debits, such as checks or debit card transactions.

As an account owner, I am responsible for satisfying all debits in my account, including any debit balance outstanding after all assets have been removed from an account, any margin interest (at prevailing margin rates) that has accrued on that debit and any costs (such as legal fees) that Fidelity incurs collecting the debit. I am responsible for ensuring that checks issued to me representing distributions from my account are promptly presented for payment. If a check issued to me from my account remains uncashed and outstanding for at least six months, I authorize and instruct Fidelity, in its sole discretion, to cancel the check and return the underlying proceeds to me by depositing the proceeds into my account.

I agree that the Core Transaction Account shall be automatically redeemed to satisfy debit balances in the securities account, check usage, electronic funds transfers, over-drafts, and other authorized debit items.

If I so elect, and upon my instructions, monies representing the redemption of Core Transaction Account shares may be transferred to a bank account designated by me. Such monies shall be submitted, at Fidelity's election, via the Federal Reserve wire system or an automated clearinghouse system.

I hereby ratify any instructions given on this account and any account of another Fidelity fund into or from which I exchange and agree that neither you nor the fund's transfer agent will be liable for any loss, cost or expense for acting upon such instructions (by telephone or writing) believed by you or them to be genuine and in accordance with the procedures described in the fund prospectus. I understand that it is my responsibility to read the prospectus of any other Fidelity or non-Fidelity fund into which I purchase or exchange.

I understand certain fees may be applicable for services, that you may change the amount of the fees, and that the Core Transaction Account will assume various charges in connection with the account.

Fidelity Management & Research Company will receive a fee for serving as investment advisor to the Fidelity Funds. I further understand that for any special services that are not part of your regular account and that are requested by me or my Authorized agent(s)/Advisor(s) and performed by you, I will pay your customer service charges. If I select a money market fund, it is a request for a prospectus which will be sent to me or will be available on *Fidelity.com*. Making the first investment into that fund is my acknowledgment that I have received and read a prospectus for that fund.

25. Payment of Items

If I Utilize a Fidelity Money Market Fund as My Core Position

If I utilize a Fidelity money market fund as my core position and there are debits in my account generated by account activity occurring prior to the market close each business day (or 4:00 PM ET on business days when the market is closed and the Fedwire Funds Service is operating) these debits will be settled at the market close using the following sources, in this order:

1. any Intra-day Free Credit Balances,
2. redemption proceeds from the sale of my core position at the market close,
3. redemption proceeds from the sale of any shares of a Fidelity money market mutual fund held in the account that maintains a stable (i.e., \$1.00/share) net asset value and is not subject to a liquidity fee or similar fee or assessment,
4. if I have a margin account, any margin surplus available, which will increase my margin balance.

There will be additional sweeps early in the morning prior to the start of business on each business day, and certain unsettled debits in my account along with debits associated with certain actual or anticipated transactions that would otherwise generate a debit in my account during the business day will be settled using redemption proceeds from the sale my core position early in the morning prior to the start of business.

If I Utilize the Bank Sweep as My Core Position

If I utilize the Bank Sweep as my core position and there are debits in my account generated by account activity occurring prior to Fidelity's nightly processing cycle, these debits will be settled using the following sources, in this order:

1. redemption proceeds from shares held in the MMKT Overflow Fund,
2. any Intra-day or After-hours Free Credit Balances proceeds from the withdrawal of Program Deposits occurring on the next business day (not including bank holidays or days on which the New York Stock Exchange is closed, such as Good Friday),
3. redemption proceeds from the sale of any shares of a Fidelity money market mutual fund held in the account that maintains a stable (i.e., \$1.00/share) net asset value and is not subject to a liquidity fee or similar fee or assessment,

4. if I have a margin account, any margin surplus available, which will increase my margin balance.

In addition, early in the morning prior to the start of business on each business day, certain unsettled debits in my account along with debits associated with certain actual or anticipated transactions that would otherwise generate a debit in my account during the business day will be settled using redemption proceeds from the sale of shares in the MMKT Overflow Fund, early in the morning prior to the start of business, if applicable, and then the withdrawal of Program Deposits occurring that business day (not including bank holidays or days on which the New York Stock Exchange is closed, such as Good Friday).

If I Utilize the Interest Bearing Option ("FCASH") as My Core Position

If I utilize the Interest Bearing option as my core position and there are debits in my account generated by account activity occurring prior to Fidelity's nightly processing cycle these debits will be settled using the following sources, in this order:

1. any Intra-day or After-hours Free Credit Balances funds held in FCASH,
2. redemption proceeds from the sale of any shares of a Fidelity money market mutual fund held in the account that maintains a stable (i.e., \$1.00/share) net asset value and is not subject to a liquidity fee or similar fee or assessment,
3. if I have a margin account, any margin surplus available, which will increase my margin balance.

In addition to the foregoing, we may turn to the following sources: redemption proceeds from the sale of any shares of a Fidelity money market fund held in another nonretirement account with the same registration (which I authorize you to sell for this purpose when I sign the applications), or any securities in any other account at Fidelity in which I have an interest.

If I want to opt out of the foregoing, I will contact Fidelity for more information. In the event that my account does not contain sufficient cash, Fidelity may liquidate securities to satisfy a court order, levy, or any other legal process payment.

As used in this Agreement, the total cash and margin loan value shall be the "Collected Balance."

Fidelity shall not be responsible for the dishonor of any transaction due to insufficient Collected Balance. Other transactions that I initiate or to which I have consented may also reduce my Collected Balance. I understand that if funds in my account are insufficient to pay any item, such items will not be honored. I will promptly return to Fidelity any assets that Fidelity distributes to me but to which I am not entitled.

Note that at any time, Fidelity may reduce my available balance to cover obligations that have occurred but not yet been debited, including but not limited to withholding taxes that should have been deducted from my account.

In the event I hold a money market mutual fund in my account that impacts my cash available and is subject to a liquidity fee or redemption gate (as described in more detail in the fund's prospectus), upon notice to Fidelity by the fund that a liquidity fee or redemption gate has been imposed, the cash available and running collected balance in my account will be reduced by the amount of the value of the impacted money market mutual fund and payment of debit items from my account will continue to be paid as described in this agreement, but Fidelity will only pay items from a money market fund that has imposed a liquidity fee as part of that payment process after the other sources are attempted.

I acknowledge that if a money market mutual fund held in my account imposes a liquidity fee or redemption gate, the money market mutual fund may not provide Fidelity with advance notice of such liquidity fee or redemption gate. As a result, I may not be notified of such liquidity fee or redemption gate when I submit a trade. However, as instructed by the fund (and disclosed in the fund prospectus), my trade will be subject to such liquidity fee or redemption gate, and it may be applied to my trade retroactively.

26. Liability for Costs of Collection

I am liable for payment upon demand of any debit balance or other obligation owed in any of my accounts or any deficiencies following a whole or partial liquidation, and I agree to satisfy any such demand or obligation. I agree to reimburse Fidelity for all reasonable costs and expenses incurred in the collection of any debit balance or unpaid deficiency in any of my accounts, including, but not limited to, attorneys' fees.

27. Trading Authorization

A. I have indicated on the Fidelity Brokerage Application that I have authorized one or more Authorized agent(s)/Advisor(s) to execute trades on my account, and Fidelity is authorized and directed to accept any trading, servicing, or account-related instruction of the Authorized agent(s)/Advisor(s) on my behalf. Fidelity reserves the right, but is not obligated, to confirm with me any of my Authorized agent's(s')/Advisor's(s') instructions prior to acting on such instructions, **including requests to change the address or email address on my account.**

The Authorized agent(s)/Advisor(s) may inquire in and trade in my account as specified, and Fidelity is authorized and directed to accept the instructions of the Authorized agent(s)/Advisor(s). The authorization shall be applicable to all assets I hold in the specified account. Except as otherwise provided, for through a separate Asset Movement Authorization, the Authorized agent(s)/Advisor(s) is not authorized to withdraw, or direct the withdrawal of, assets from my account as part of the servicing instructions.

B. I understand and agree that:

1. Fidelity is authorized and directed to accept the instructions of my Authorized agent(s)/Advisor(s) on my behalf. This authorization shall be applicable to all assets I hold in the specified account. Fidelity reserves the right, but is not obligated, to confirm with me any of my Authorized agent's(s')/Advisor's(s') instructions prior to acting on such instructions, **including requests to change the address or email address on my account.**
2. By granting trading authorization to my Authorized agent(s)/Advisor(s), I understand and agree that my advisor will have the ability to instruct Fidelity to initiate transfers of cash from my bank account to my Fidelity account, based on standing written funds transfer instructions provided by me to Fidelity.
3. Fidelity is further authorized to act upon my Authorized agent's(s')/Advisor's(s') instructions to aggregate transaction orders for my Account with orders for one or more other accounts over which the Authorized agent(s)/Advisor(s) has trading authorization, or to accept or deliver assets pursuant to a separately executed authorization I have granted to my Authorized Agent(s)/advisor(s) in transactions executed by other Broker-Dealers where Authorized agent(s)/Advisor(s) has so aggregated orders. I agree that if any such aggregated order is executed in more than one transaction, my portion of such order may be deemed to have been at the weighted average of the prices at which all of such transactions were executed.

28. Asset Movement Authorization

I understand that if I do not select Level I or Level II asset movement authority or if I choose to have no asset movement authority on this account, each cashing or money movement request will require my signature.

Level I Limited (First Party Only)

By selecting Level I Limited asset movement authorization on my account application, I authorize and direct Fidelity to accept instructions from my Authorized agent(s)/Advisor(s) for one time disbursements and the establishment of and changes to periodic disbursements (Periodic Distribution Plans) from my account, including: (1) for redemptions and payment of monies from my account by check made payable to me and sent to me at my address of record, (2) to disburse funds electronically, including bank wires and Electronic Funds Transfers (EFTs), to any first-party bank account pursuant to a standing written instruction provided to Fidelity and signed by me, and first-

party check disbursements to any payee and address I have authorized through standing written instructions provided to Fidelity and signed by me, and (3) transfers of cash or securities from this account to other same-registration accounts at Fidelity, if this account is an individual or transfer on death account (accounts owned by me individually), contributions from this account to any IRA I own at Fidelity.

Level I (First and Third Party)

By selecting Level I asset movement authorization on my account application, I authorize and direct Fidelity to accept instructions from my Authorized agent(s)/Advisor(s) as described in Level I Limited and, in addition, to accept instructions from my Authorized agent(s)/Advisor(s), without receiving instructions directly from me, to (1) disburse funds electronically, including bank wires or Electronic Funds Transfers (EFTs) to any third-party account I have authorized through standing written instructions and third-party check disbursements to any payee and address I have authorized through standing written instructions, and (2) transfers of cash or securities from this account to other third-party accounts at Fidelity I have authorized through standing written instructions.

Level II

By selecting Level II asset movement authorization on my account application, I authorize and direct Fidelity to accept instructions from my Authorized agent(s)/Advisor(s) as described in Level I and, in addition, to accept instructions from my Authorized agent(s)/Advisor(s), without receiving instructions directly from me, to transfer monies from my Fidelity account by wire to accounts at banks or other financial institutions that my Authorized agent(s)/Advisor(s) represents to Fidelity have the same account owner or owners and the same registration type as this account. **By granting this authorization, I understand and agree that Fidelity will not undertake to confirm my Authorized agent's(s')/Advisor's(s') representations and cannot confirm the account registration at the receiving bank or financial institution. Therefore, Fidelity will not undertake to monitor my Authorized agent's(s')/Advisor's(s') compliance with my instructions to him or her and will rely solely upon the instructions of my Authorized agent(s)/Advisor(s) for these transfers. I understand that I should carefully review my account documentation and monitor all activity on my account. Fidelity may require direct instructions from me for transactions over a certain amount.**

A. Upon requests for any account-related activity on my account from my Authorized agent(s)/Advisor(s), including, but not limited to, requests for bank wires or EFTs, Fidelity reserves the right, but is not obligated to confirm with me any of my Authorized agent's(s')/Advisor's(s') instructions prior to acting on them and to restrict or not accept requests for these transfers, at its own discretion. The Authorized agent(s)/Advisor(s) is authorized to act for me and on my behalf in the same manner and with the same force and effect as I might or could do to the extent necessary or incidental to the furtherance or conduct of the account, in accordance with this agreement or my separate standing instructions. This authorization shall apply only with respect to my brokerage account opened with this application. The Authorized agent(s)/Advisor(s) will place no trading orders or conduct activity in my account that exceeds its authority under this authorization or any other agreement governing the account.

B. I understand and agree that Fidelity is authorized and directed to accept the instructions of the Authorized agent(s)/Advisor(s) on my behalf. This authorization shall be applicable to all assets I hold in the specified account. Fidelity reserves the right, but is not obligated, to confirm with me any of my Authorized agent's(s')/Advisor's(s') instructions, at its own discretion.

29. Authorization to Pay Fees to Advisor

By signing the account application, I authorize Fidelity to pay management fees to my Authorized agent(s)/Advisor(s) and/or his/her agent. I authorize Fidelity to pay Authorized agent(s)/Advisor(s) from my account. Fidelity may use money from the Core Transaction Account and/or cash in my account to the extent necessary to pay such fees. Fidelity may rely on the fee calculation submitted by Authorized agent(s)/Advisor(s) to Fidelity to deduct from my account. I understand that it is my responsibility to verify the fee and the accuracy of the fee calculation and that Fidelity will not determine whether the fee or the

calculation is accurate and appropriate. I indemnify and hold Fidelity and its directors, employees, and control persons harmless from all liabilities and costs, including attorneys' fees, that Fidelity may incur by relying upon the Authorized agent's(s')/Advisor's(s') representations or upon the above authorization.

Fidelity, Authorized agent(s)/Advisor(s), or I may terminate any fee deduction authorization at any time by giving written notice to the others, but such termination shall not affect any obligation or liabilities arising prior to termination. This agreement may be modified or amended only pursuant to a written agreement signed by a duly authorized representative of Fidelity.

30. Outsourced Agent Authorization ("OAA")

By selecting OAA, I authorize Fidelity to accept instructions from the Primary Authorized agent/Advisor on my Account to add or remove other eligible Authorized agent(s)/Advisor(s) to or from my Account without direct instruction from me. I understand and agree that any Authorized agents/Advisors added to my Account pursuant to OAA will have the same trading, asset movement, and fee deduction authorization I grant to my Primary Authorized agent/Advisor. I agree that all of representations I make in this Agreement with respect to my Authorized agents/Advisors and any of the authorizations referenced herein also apply to all Authorized agents/Advisors added to my account pursuant to this OAA. I further agree that Fidelity has no role in, nor any duty to monitor or oversee the addition or removal by my Primary Authorized agent/Advisor of any Authorized agent/Advisor pursuant to this OAA.

31. Fidelity Stock Plan Services

If I am a participant in equity compensation plans ("Stock Plans") and associated equity compensation rights under those Stock Plans (collectively "Rights") of my employer (together with its affiliates the "Issuer") for which Fidelity Stock Plan Services provides recordkeeping and administrative services (the "Stock Plan Services"), then with respect to the Stock Plan Services and my individual brokerage account identified to be used in connection with the Stock Plan Services, I agree as follows:

- I acknowledge that the terms of the Stock Plans and of my Rights are determined by the Issuer, and that I have received, reviewed, and understand the information distributed to me by the Issuer in connection with such Stock Plans and Rights, including any applicable prospectus, grant, or enrollment agreement, or other Stock Plan document (collectively "Plan Documents").
- I acknowledge that various federal and state laws or regulations may be applicable to my transactions, including, without limitation, Rule 144 under the Securities Act of 1933 and Section 16(b) of the Securities Exchange Act of 1934, and I agree to conduct these transactions in conformity with all applicable laws and regulations.
- I acknowledge that my rights and obligations with respect to the Rights (including, without limitation, quantities, vesting dates, and expiration dates) are determined under the Plan Documents, and that if any information provided by Fidelity to me (whether verbally or in writing) conflicts with the provisions of the Plan Documents, the information in the Plan Documents will control.
- I acknowledge that certain events may affect my rights and obligations with respect to the Rights (including, without limitation, changes in my employment relationship with the Issuer), and that I am responsible for understanding my rights and obligations with respect to the Rights.
- I authorize Fidelity to act on my instructions (given in writing, by telephone, or electronically) with respect to Rights in connection with the Issuer, including, without limitation, to exercise, purchase shares, or take other actions with respect to the Rights on my behalf, or to hold, transfer, or sell shares in my account.
- I understand that my instructions to Fidelity are irrevocable, except in the case of an unexecuted limit order, which I may attempt to cancel.
- I authorize the Issuer or its agent to rely without further investigation on this authorization as conclusive evidence of my irrevocable election to authorize Fidelity to act on my behalf with respect to

the Rights, including exercising my Rights in accordance with and subject to the terms, provisions, and conditions of the Issuer's Stock Plans and the Plan Documents.

- In connection with certain Stock Plans, I may agree to certain contractual limitations on the shares that I obtain through the Stock Plan, including, without limitation, contractual restrictions on my ability to sell securities I obtain in connection with Stock Plans, and I hereby consent to and authorize Fidelity to take actions reasonable and necessary to enforce such contractual limitations in accordance with the Stock Plans and the Plan Documents.
- I authorize Fidelity, the Issuer, and their agents to exchange information regarding the exercise of my Rights and my purchase and sale of shares, including, without limitation, notice of exercise, number of shares, sale date, sale price, and income tax information relating to compensation income and tax withholding in relation to these transactions and subsequent sales, transfers, and dispositions of shares.
- In the case of Rights which are stock options, for any option exercise-and-sell order for which I give Fidelity instructions, I authorize Fidelity to make full payment to the Issuer or its agent for the option exercise price and, when required, tax withholding as instructed by the Issuer.
- Fidelity reserves the right to reject any order to sell shares in my account until shares are properly delivered by the Issuer and deposited into my account.
- I authorize the Issuer or its agent to issue shares in connection with any Rights to Fidelity in street name and to forward the shares (plus any dividend, split, or similar distribution paid by the Issuer or its agent with respect to such shares) directly to Fidelity for my account.
- I acknowledge that the Rights were granted in connection with my employment and, at the time of exercise, purchase, or other direction I give to Fidelity, I will be authorized to exercise, purchase, or take such other action.
- I understand that the Rights and/or the subsequent sale of the shares may have significant tax consequences. I further understand that Fidelity and its agents and employees are not authorized to give me tax or investment advice, and I have consulted such other sources I deem appropriate in connection with my transactions.
- I will indemnify Fidelity for any losses Fidelity may suffer as a result of our compliance with the authorizations set forth herein and any instructions given by me.

32. Assignment

Authorized agent(s)/Advisor(s) may not assign this or any related agreement without the prior written consent of me and Fidelity. All authorizations granted to my Authorized agent(s)/(Advisor(s)) shall inure to the benefit of my Authorized agent(s)/(Advisor(s)) successors, whether by merger, consolidation or otherwise, and assigns, and you may transfer the Authorized agent(s)/(Advisor(s)) authorizations to the successor and assigns.

33. Termination of Account

My account may be terminated by me or Fidelity at any time. This agreement will remain in effect until its termination is acknowledged in writing by an authorized representative of Fidelity. I will remain responsible for all charges, debit items liquidation, or other transactions initiated or authorized by me, whether arising before or after termination.

I understand that Fidelity reserves the right to charge an account termination fee whether the account is terminated by me or by Fidelity.

If my Fidelity brokerage account is terminated, whether by me or you, I will promptly destroy or return all unused checks and cards to you. I understand that failure to do so may result in a delay in complying with my instructions as to the disposition of assets in my account. Fidelity reserves the right to charge a service fee or close any account that fails to maintain minimum activity or balance requirements, and further reserves the right to close an account or remit credit balances because of insufficient investment-related activity. Fidelity may periodically review my account activity, and reserves the right to charge reasonable inactivity fees or to close or change the optional account features, fees, and services, or to cease paying interest on account credit balances for any reason, including, but not limited to, insufficient investment activity in accordance with the regulations of the New York Stock Exchange and Securities Investor Protection Corporation. Fidelity will notify me if any changes or charges are imposed. Termination will result in cancellation of my account and other features or privileges.

My account balance and certain uncashed checks issued from my account may be transferred to a state unclaimed property administrator if no activity occurs in the account or the check remains outstanding within the time period specified by the applicable state law.

Texas Residents only: In accordance with Texas House Bill 1454, I, as an account owner, may designate a representative for the purpose of receiving a due diligence notice. If I add a designated representative, Fidelity is required to mail the written notice upon presumption of abandonment to the representative, in addition to mailing the notice to me, the account owner.

34. Termination of Authorizations

The authorizations I have granted in this Application and Agreement is a continuing one and shall remain in full force and effect until Fidelity is notified in writing of my death, disability, or incapacity or unless revoked through written notice actually received by Fidelity. Such revocation, however, shall not affect any prior liability or obligation in any way resulting from any transaction initiated before receipt of the revocation. Furthermore, it is understood that the authorizations and indemnity is in addition to, and in no way restricts, any rights that may exist at law or under any other agreement(s) between me and Fidelity. The authorizations and indemnity shall be construed, administered, and enforced according to the laws of the Commonwealth of Massachusetts. It shall inure to the benefit of Fidelity and of any successor firm or firms (whether by merger, consolidation, or otherwise) irrespective of any change(s) at any time in the personnel thereto for any cause whatsoever and to the benefit of the affiliates and the assigns of Fidelity or any successor firm. It is further understood that Fidelity reserves the right, but is not obligated, to request authorization from me prior to executing any transaction requested from my Authorized agent/Advisor, and to cease accepting instructions from my Authorized agent/Advisor at Fidelity's sole discretion and for its sole protection. I understand that if Fidelity terminates its relationship with my Authorized agent(s)/Advisor(s), Fidelity will not be obligated to honor any authorization I have granted to my Authorized agent(s)/Advisor(s) in this Agreement, and I will have exclusive control over, and responsibility for, my account; and unless Fidelity notifies me otherwise, my account will become a Fidelity retail brokerage account and the fees and commissions applicable to my account will change as a result and I can view the Fidelity retail brokerage account fees and commissions, as well as the applicable Form CRS, on [Fidelity.com](https://www.fidelity.com), or obtain them from Fidelity by calling 800-343-3548.

35. Pre-Dispute Arbitration Agreement

This agreement contains a pre-dispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

- (A) All parties to this agreement are giving up the right to sue each other in court, including the right to a trial by jury, except as provided by the rules of the arbitration forum in which a claim is filed.
- (B) Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- (C) The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.
- (D) The arbitrators do not have to explain the reason(s) for their award unless, in an eligible case, a joint request for an explained decision has been submitted by all parties to the panel at least 20 days prior to the first scheduled hearing date.
- (E) The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.
- (F) The rules of some arbitration forums may impose time limits for bringing a claim in arbitration. In some cases, a claim that is ineligible for arbitration may be brought in court.
- (G) The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this agreement.

All controversies that may arise between me, my Authorized agent/Advisor, and you, concerning any subject matter, issue or circumstance whatsoever (including, but not limited to, controversies concerning any account, order, distribution, rollover, advice interaction or transaction, or the continuation, performance,

interpretation or breach of this or any other agreement between me, my Authorized agent, and you, whether entered into or arising before, on, or after the date this account is opened) shall be determined by arbitration in accordance with the rules then prevailing of the Financial Industry Regulatory Authority (FINRA) or any United States securities self-regulatory organization or United States securities exchange of which the person, entity, or entities against whom the claim is made is a member, as I may designate. If I designate the rules of a United States self-regulatory organization or United States securities exchange and those rules fail to be applied for any reason, then I shall designate the prevailing rules of any other United States securities self-regulatory organization or United States securities exchange of which the person, entity, or entities against whom the claim is made is a member. If I do not notify you in writing of my designation within five (5) days after such failure or after I receive from you a written demand for arbitration, then I authorize you to make such designation on my behalf. The designation of the rules of a self-regulatory organization or securities exchange is not integral to the underlying agreement to arbitrate. I understand that judgment upon any arbitration award may be entered in any court of competent jurisdiction.

No person shall bring a putative or certified class action to arbitration, nor seek to enforce any pre-dispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until: (i) the class certification is denied; or (ii) the class is decertified; or (iii) the customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this agreement except to the extent stated herein.

Margin Account Agreement

Please retain for your records.

To: Fidelity Brokerage Services LLC ("FBS") and National Financial Services LLC ("NFS," together with FBS, "Fidelity" or "You")

In consideration of Fidelity accepting one or more accounts, I acknowledge that I have read, understood and agree to the terms set forth below.

Brokerage Margin Account

I understand that I must qualify for margin privileges before I am eligible for margin trading. The settlement of securities purchases and other debit items in my account comes first from Core Transaction Account balances and second from any margin availability. Any cash, bank deposit sweep, or money market fund balance in my Core Transaction Account will then be automatically applied to my margin debit balance. Further, I have carefully examined my financial resources, investment objectives, and tolerance for risk along with the terms of the margin agreement and have determined that margin financing is appropriate for me. I understand that investing on margin involves the extension of credit to me and that my financial exposure could exceed the value of my securities. Any information I give you on this account agreement will be subject to verification, and I authorize you to obtain a credit report about me at any time. Upon written request, you will provide the name and address of the credit reporting agency used.

If my account is approved for margin, all marginable assets will be held in a margin account, unless I or my Authorized agent(s)/Advisor(s) instructs you to the contrary.

Loan of Margin Securities: Security Interest

Any and all credit balances, securities, or contracts relating thereto, and all other property of whatsoever kind belonging to me or in which I may have an interest held by you or carried for my accounts, shall be subject to a general lien for the discharge of my obligations to you (including un-matured and contingent obligations), however arising and without regard to whether or not you have made advances with respect to such property and without notice to me, may be carried in your general loans, and all securities may be pledged, re-pledged, hypothecated or re-hypothecated, separately or in common with other securities or any other property, for the sum due to you thereon or for a greater sum and without retaining in your possession and control for delivery a like amount of similar securities or other property. Fidelity may use certain securities in my Margin Account for, among other things, settling short sales and lending the securities for short sales, and as a result may receive compensation in connection therewith. At any time and from time to time you may, at your discretion, without notice to me, apply and/or transfer any securities, contracts relating thereto, cash or any other property therein, interchangeably between any of my accounts, whether individual or joint from any of my accounts, to any account guaranteed by me. You are specifically authorized to transfer to my Cash Account, on the settlement day following a purchase made in that brokerage account, excess funds available in any of my other accounts, including, but not limited to, any free balances in any margin account, sufficient to make full payment of this cash purchase. I agree that any debit occurring in any of my accounts may be transferred by you at your option to my Margin Account.

Shares of any investment company in which the account holder(s) has an interest and for which Fidelity Management & Research Company serves as investment advisor also are subject to a general lien for the discharge of my obligations to Fidelity, and Fidelity may redeem any such shares to satisfy my obligation without further notice or demand. However, no provision of this agreement concerning liens or security interests shall apply to any account to the extent such application would be in conflict with any provisions of ERISA or the Internal Revenue Code relating to retirement accounts.

In return for your extension or maintenance of credit in connection with my account, I acknowledge that the securities in my margin account, together with all attendant rights of ownership, may be lent to you or lent by you to others. In connection with such loans and in connection with securities loans made to me to facilitate short sales, you may receive and retain certain benefits to which I will not be entitled. Such loans may limit, in whole or in part, my ability to exercise voting rights and/or my entitlement to interest, dividends, and/or other distributions with respect to the securities lent.

I understand that, while a security in my account is lent to you or to others, the borrower or the party to whom the borrower has sold the security may be entitled to interest, dividends, and/or other distributions, and I may be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. I understand that substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and that I may incur additional tax liability for substitute payments that I receive. Fidelity may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, means of a lottery allocation method. I acknowledge that I am not entitled to any compensation in connection with securities lent from my account or for additional taxes I may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions.

Payment upon Demand

I will maintain such margins as you may in your discretion require from time to time and will pay on demand any debit balance owing with respect to any of my accounts. I will be liable to you for any deficiencies in such account in the event of the liquidation of such accounts, in whole or in part, by you or the undersigned. Whenever in your discretion you deem it desirable for your protection (and without the necessity of a margin call), including, but not limited to, extreme market volatility or trading volumes, or an instance where a petition in bankruptcy or for the appointment of a receiver is filed by or against me, or an attachment is levied against my brokerage account, or in the event of notice of my death or incapacity, an account owner's death, including a transfer arising in connection therewith, or a petition for bankruptcy or in compliance with the orders of any Stock Exchange, you may, without prior demand, tender and, without any notice of the time or place of sale, all of which are expressly waived, sell any or all securities or contracts relating thereto that may be in your possession, or that you may be carrying for me, or buy any securities, or contracts relating thereto of which my account or accounts may be short, in order to close out in whole or in part any commitment on my behalf, or you may place stop orders with respect to such securities, and such sale or purchase may be made at your discretion on any Stock Exchange or other market, including before or after hours markets, where such business is then transacted, or at public auction or private sale, with or without advertising and neither any demands, calls, tenders or notices that you may make or give in any one or more instances nor any prior course of conduct or dealings between us shall invalidate the aforesaid waivers on my part. You shall have the right to purchase for your own account any or all of the aforesaid property at such sale, discharged of any right of redemption, which is hereby waived. I understand that my financial exposure could exceed the value of securities in my account.

I am liable for payment upon demand of any debit balance or other obligation owed in any of my accounts or any deficiencies following a whole or partial liquidation, and I agree to satisfy any such demand or obligation. Interest will accrue on any such deficiency at prevailing margin rates until paid. I agree to reimburse Fidelity for all reasonable costs and expenses incurred in the collection of any debit balance or unpaid deficiency in any of my accounts, including, but not limited to, attorneys' fees.

By signing this Agreement, I hereby grant to Fidelity and its affiliates, to secure the payment and performance in full of all of the Obligations (as hereinafter defined), a security interest in, and pledge and assign to Fidelity and its affiliates, the following properties, assets and rights, whether now owned or hereafter acquired or arising, whether individually or jointly owned and/or held by me with others, and all proceeds and products thereof (all of the same being hereinafter called the "Property"): any and all securities, other investment properties (including investment company securities and securities accounts), monies, credit balances, assets or related contracts and deposit accounts, to the extent any of the foregoing may now or hereafter be (i) held, carried and/or maintained by Fidelity and/or any of its affiliates, (ii) held, carried or maintained by Fidelity and/or any of its affiliates through any correspondent broker/dealer of NFS ("broker/dealer"), (iii) in the possession or control of Fidelity or any of its affiliates for any purpose, including for safekeeping, or (iv) held, carried or maintained or in the possession or control of the Fidelity Group of Funds, Fidelity Service Company, Inc., as a transfer agent for the Fidelity Group of Funds, or any

sub-transfer agent of the Fidelity Group of Funds. All terms defined in the Uniform Commercial Code of the Commonwealth of Massachusetts and used herein shall have the same definitions herein as specified therein; however, if a term is defined in Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts differently than in another Article of the Uniform Commercial Code of the Commonwealth of Massachusetts, the term has the meaning specified in Article 9. For purposes hereof, the term "Obligations" shall mean any and all indebtedness, liabilities or other obligations (including unmatured and contingent obligations) now or hereafter owed by me to Fidelity, any of Fidelity's affiliates, or any broker/dealer, including, but not limited to, any such indebtedness, liabilities or other obligations arising under this Agreement.

If a default shall have occurred and is continuing, Fidelity and its affiliates, without any other notice to or demand upon me, shall have in any jurisdiction in which enforcement hereof is sought, in addition to all other rights and remedies, the rights and remedies of a secured party under Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts and any additional rights and remedies as may be provided to a secured party in any jurisdiction in which Property is located, including, without limitation, the right to take possession of the Property. Without limiting the foregoing, I understand that in the event any Obligations remain unpaid after payment is requested of me, Fidelity shall have the right to sell, liquidate, transfer or assign such Property to satisfy any such Obligation whether or not Fidelity has made advances with respect to such Property. No further demand or notice shall be required prior to taking such an action. Fidelity shall have the discretion to determine which Property is to be sold, liquidated, transferred, or assigned. Neither Fidelity nor any of its affiliates shall be required to marshal any preset or future collateral security (including, but not limited to, the Property) for, or other assurances of payment of, the Obligations of any of them, or resort to such collateral security or other assurances of payment in any particular order.

I agree to cooperate with Fidelity and its affiliates and to execute such further instruments and documents as Fidelity or its affiliates shall reasonably request to carry out to their satisfaction the transactions contemplated by this Agreement.

Settlement of Transactions

In the absence of a specific demand, all transactions in any of my accounts are to be paid for, securities delivered or required margin deposited no later than 2 p.m. Eastern time on the settlement date. And I agree to deliver my securities I have in my possession in sufficient time to be received by Fidelity one day before the settlement date. Fidelity reserves the right to cancel or liquidate, at my risk, any transaction not timely settled. Margin calls are due on or before the date indicated regardless of the settlement date of the transaction. For most stocks and bonds, the settlement date is the third business day following the trade date. Settlement dates for U.S. government issues vary. Options settle on the next business day. Interest will be charged on any debit balance which remains in my brokerage account past the settlement date as explained in the Disclosure of Credit Terms on Transactions section of this Agreement.

Receipt of Communications

Communications by mail, electronic means, messenger, telegraph or otherwise, sent to me at the U.S. postal mail address listed on the account application, or any other address I may give Fidelity, are presumed to be delivered to and received by me whether actually received or not. I understand that I should promptly and carefully review the transaction confirmations and monthly statements and notify you of any errors. Information contained on transaction confirmations and account statements is conclusive unless I object in writing immediately after its being transmitted to me or my Authorized agent(s)/Advisor(s).

Rate of Interest

I agree to be charged interest on any credit extended to, or maintained for, me by you for the purpose of purchasing, carrying, or trading in any security. The annual rate of interest that will be charged on U.S. Dollar debit balances will be calculated by means of a formula based on the Base Lending Rate agreed upon by Fidelity and my Advisor which may

be the Fidelity Advisor Base Lending Rate ("FABLR") or the Fed Funds Target or Call Money rates. This rate shall be communicated to me by my Authorized agent(s)/Advisor(s). The rate of interest is subject to change without prior notice in accordance with changes in the FABLR or changes to the Fed Funds Target or Call Money rates as published in the Wall Street Journal. FABLR is set at the discretion of Fidelity with reference to commercially recognized interest rates, industry conditions regarding the extension of margin credit, and general credit conditions. Contact your Advisor to obtain the most recent FABLR base rate. Fed Funds target rate and Call Money rate are both subject to change based on market conditions. The minimum base rate for the purposes of determining interest to be applied for any credit extended or maintained based on the Fed Funds Target or the Call Money rate shall not fall below 0.00% for Fed Funds target rate or 1.75% for the Call Money rate. Should the Targeted Fed Funds rate or Call Money rate represent a range, the high end of the range shall be used for purposes of applying the following schedule. With the exception of credit balances in the Type 3-Short account and Type 9-Income accounts, all other balances in all of my accounts opened through my Authorized agent(s)/Advisor(s) are combined to determine the daily balance, and interest is charged to the Margin Account based on the average of any resulting daily debit balance. Interest is computed monthly on the average debit balances during the month. If during the month there is a change in interest rates, separate charges will be shown for each interest period under the different rate. Interest on International balances is calculated daily according to actual daily debit balances during the month and the interest rate applicable to each currency in the account. Interest rates will vary according to actual daily debit balances and applicable international interest rates, and therefore may change without notice to me. Separate charges will be shown for each currency in the account at the end of the month. The combining of balances, as well as the actual interest calculations, are done by computer, but the interest is arrived at by multiplying the average debit balance for U.S. dollar balances by the effective rate of interest, dividing by 360, and multiplying by the number of days a daily debit balance was maintained during the interest period. Interest from International balances are calculated by multiplying the daily debit of International balances by the effective rate of interest, dividing by 360 and summing for each day a daily debit balance was maintained.

I agree that in giving orders to sell, all "short" sale orders will be designated as "short" and all "long" sale orders shall be designated as "long," and that the designation of a sell order as "long" is a representation on my part that I own the security and that I have delivered or will deliver by settlement date such security to you.

Maintenance of Margin Requirements

In the event there is a decline in the market value of the securities in the margin account, Fidelity may have to request additional collateral. Fidelity retains the right to require additional margin at any time you deem it necessary or advisable. Any such call for additional collateral may be met by delivery of additional marginable securities or cash. Any securities in any of the accounts of the undersigned are collateral for any debit balances in the account with you. A lien is created by these debits to secure the amount of money owed you. This means that, in accordance with the terms of this agreement, securities in the said accounts can be sold by you to redeem or to liquidate any debit balances in these accounts. Fidelity reserves the right to increase maintenance requirements and to request additional collateral at any time at Fidelity's discretion. I understand that you may borrow securities in the amount and class for which I may be carrying a short position and that you may be forced to liquidate all or part of my short position if the lender recalls the borrowed securities, which liquidation may result in a loss to me. The Federal Equal Credit Opportunity Act prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, age (provided the applicant has the capacity to enter into a binding contract); because all or part of the applicant's income derives from a public assistance program, or because the applicant has, in good faith, exercised any right under the Consumer Credit Protection Act. The Federal agency that administers compliance with this law concerning this creditor is:

Securities and Exchange Commission, 450 Fifth Street NW, Washington, DC 20549.

Disclosure of Credit Terms on Margin Transactions

Securities and Exchange Commission Rule 10b-16 requires a broker who extends credit to a customer in connection with any security transaction to furnish the customer specified information describing the terms, conditions, and methods pursuant to which interest charges are made to customers' accounts. This disclosure is provided to you, the customer, in conformity with that rule.

Interest on debit balances held in U.S. Dollars or International currency will be charged on all accounts for any credit extended to or maintained for customers by the firm for the purpose of purchasing, carrying, or trading in securities or otherwise.

The annual rate of interest you will be charged may vary, depending upon the amount of your average debit balance and the applicable Fidelity Advisor Base Lending Rate, which is set at the discretion of Fidelity with references to commercially recognized interest rates, industry conditions regarding the extension of margin credit, and general credit conditions.

Standard rates are below. See your account statement for your rate.

The annual rate of interest you will be charged on United States Dollar (USD) credit may vary from a minimum of 0.2% to a maximum of 2% above the Fidelity Advisor Base Lending Rate ("FABLR"), depending upon the amount of your average debit balance.

<u>Average Debit Balance</u>	<u>Interest to Be Charged Above FABLR</u>
\$0-\$9,999	2.00%
\$10,000-\$24,999	1.50%
\$25,000-\$49,999	1.00%
\$50,000-\$249,999	0.75%
\$250,000-\$999,999	0.50%
\$1,000,000-\$4,999,999	0.25%
\$5,000,000 and over	0.20%

If your debit balance is in Australian Dollars, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Australian Dollars ("FABLR-AUD").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-AUD</u>
\$0-\$124,999	2.00%
\$125,000-\$599,999	1.50%
\$600,000-\$1,499,999	0.50%
\$1,500,000 and over	0.00%

If your debit balance is in British Pounds, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for British Pounds ("FABLR-GBP").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-GBP</u>
£0-£69,999	2.00%
£70,000-£349,999	1.50%
£350,000-£699,999	0.50%
£700,000 and over	0.00%

If your debit balance is in Canadian Dollars, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Canadian Dollars ("FABLR-CAD").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-CAD</u>
\$0-\$99,999	2.00%
\$100,000-\$499,999	1.50%
\$500,000-\$999,999	0.50%
\$1,000,000 and over	0.00%

If your debit balance is in Danish Kroner, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Danish Kroner ("FABLR-DKK").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-DKK</u>
0 kr-649,999 kr	2.00%
650,000 kr-2,999,999 kr	1.50%
3,000,000 kr-5,999,999 kr	0.50%
6,000,000 kr and over	0.00%

If your debit balance is in Euros, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Euros ("FABLR-EUR").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-EUR</u>
€0-€99,999	2.00%
€100,000-€499,999	1.50%
€500,000-€999,999	0.50%
€1,000,000 and over	0.00%

If your debit balance is in Hong Kong Dollars, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Hong Kong Dollars ("FABLR-HKD").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-HKD</u>
\$0-\$799,999	2.00%
\$800,000-\$3,999,999	1.50%
\$4,000,000-\$7,999,999	0.50%
\$8,000,000 and over	0.00%

If your debit balance is in Japanese Yen, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Japanese Yen ("FABLR-JPY").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-JPY</u>
¥0-¥9,999,999	2.00%
¥10,000,000-¥49,999,999	1.50%
¥50,000,000-¥99,999,999	0.50%
¥100,000,000 and over	0.00%

If your debit balance is in Mexican Pesos, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Mexican Pesos ("FABLR-MXN").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-MXN</u>
\$0-\$1,499,999	2.00%
\$1,500,000-\$6,499,999	1.50%
\$6,500,000-\$12,999,999	0.50%
\$13,000,000 and over	0.00%

If your debit balance is in New Zealand Dollars, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for New Zealand Dollars ("FABLR-NZD").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-NZD</u>
\$0-\$149,999	2.00%
\$150,000-\$799,999	1.50%
\$800,000-\$1,499,999	0.50%
\$1,500,000 and over	0.00%

If your debit balance is in Norwegian Kroner, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Norwegian Kroner ("FABLR-NOK").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-NOK</u>
0 kr-699,999 kr	2.00%
700,000 kr-3,499,999 kr	1.50%
3,500,000 kr-6,499,999 kr	0.50%
6,500,000 kr and over	0.00%

If your debit balance is in Polish Zlotys, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Polish Zlotys ("FABLR-PLN").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-PLN</u>
0 zł-349,999 zł	2.00%
350,000 zł-1,699,999 zł	1.50%
1,700,000 zł-3,499,999 zł	0.50%
3,500,000 zł and over	0.00%

If your debit balance is in Singapore Dollars, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Singapore Dollars ("FABLR-SGD").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-SGD</u>
\$0–\$149,999	2.00%
\$150,000–\$699,000	1.50%
\$700,000–\$1,499,999	0.50%
\$1,500,000 and over	0.00%

If your debit balance is in South African Rand, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for South African Rand ("FABLR-ZAR").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-ZAR</u>
R 0–R 749,999	2.00%
R 750,000–R 3,999,000	1.50%
R 4,000,000–R 7,999,999	0.50%
R 8,000,000 and over	0.00%

If your debit balance is in Swedish Kronor, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Swedish Kronor ("FABLR-SEK").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-SEK</u>
0 kr–799,999 kr	2.00%
800,000 kr–3,999,999 kr	1.50%
4,000,000 kr–7,999,999 kr	0.50%
8,000,000 kr and over	0.00%

If your debit balance is in Swiss Francs, then the annual rate of interest you will be charged may vary from a minimum of 0% to a maximum of 2% above the FABLR for Swiss Francs ("FABLR-CHF").

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-CHF</u>
0 Fr–99,999 Fr	2.00%
100,000 Fr–499,999 Fr	1.50%
500,000 Fr–999,999 Fr	0.50%
1,000,000 Fr and over	0.00%

If your debit balance is in a foreign currency not specified in this disclosure, then the annual rate of interest you will be charged will be 4% above the FABLR-EUR.

<u>Daily Debit Balance</u>	<u>Interest to Be Charged Above FABLR-EUR</u>
\$0–and over	4.00%

In determining the daily debit balance for USD credit and the resulting rate of interest, Fidelity will combine the margin account balances in all accounts, except Type 3-Short Accounts and Type 9-Income accounts. To determine the daily debit balance and the resulting rate of interest we will combine the margin account balances in all accounts of the same currency, except Type 3-Short Accounts and Type 9-Income Accounts. Interest is then computed for each account based on the rate resulting from averaging the daily debit balances during the interest period.

My rate of interest will be changed without notice in accordance with changes in the FABLR and in my average debit balance. When my interest rate is to be increased for any other reason, I will be given at least 30 days' written notice. If FABLR is expressed as a range, Fidelity may apply the highest end of the range.

My monthly statement will show the dollar amount of interest and the interest rate charged to my account. There will be no interest charge reflected on my statement if my monthly charge for U.S. Dollar Interest is less than \$1.00. An interest cycle will cover the period beginning with the first business day following the 20th of each month. If the last day of a margin period falls on a U.S. holiday, then the prior day's interest rate will be used for calculations on that day.

All securities or other property held by Fidelity in any of my accounts are collateral for any debit balances. A lien is created by those debits to secure the amount of money owed to you. This means securities in any of my accounts can be sold to reduce or liquidate entirely any debit balances in my accounts, as authorized in the Margin Account Agreement.

Credit Extended by The Clearing Broker, National Financial Services LLC.

If there is a decline in the market value of the securities that are collateral for my debits, it may be necessary for you to request additional margin. Ordinarily, a request for additional margin will be made when the equity in the margin account (the market value of the securities in the account in excess of the debit balances) falls below your margin maintenance requirements, which may change from time to time without notice. You retain the right to require additional margin any time you deem it desirable. Margin calls can be met by delivery of cash or additional securities.

Other Charges

Separate interest charges at an annual rate of 2% above FABLR may be made in the Type 1-Cash account in connection with:

- (a) Prepayments (by approval only) – payments to a customer of the proceeds of a security sale before the regular settlement date.
- (b) "When-issued" transactions – when the market price of the "when-issued" security deteriorates from the customer's contract price by an amount that exceeds the customer's cash deposit, interest may be charged on such excess.
- (c) Late payments – payments for securities purchased that are received past settlement date.

USD Interest Computation

Interest on debit balances is computed by multiplying the average daily debit balance of the account by the applicable interest rate in effect and dividing by 360, times the number of days a daily debit balance was maintained during the interest period. The daily debit balance of the account is the aggregate daily debit balance for all accounts other than my Type 3-Short and Type 9-Income Accounts.

Example for USD: FABLR of 8% – Applicable Interest Rate 10%

<u>Date</u>	<u>Daily Debit Balance</u>
June 17	\$ 0
June 18	\$5,000
June 19	\$10,500
June 20	<u>\$8,000</u>
Total of 3 days	\$23,500

\$23,500 divided by 3 equals \$7,833 (daily average balance), times 10% (applicable rate) divided by 360 equals \$2.18 (daily interest charge) times 3 (the number of days the account had a net debit balance during the interest period) equals an interest charge of \$6.53.

International Interest Computation

Interest on debit balances in foreign currencies is computed daily on the actual debit balance for that day. Depending on the index rate applicable to each currency in the account, rates may change on a daily basis. Calculated by computer, the interest on combined balances from all cash and margin accounts is arrived at by multiplying the daily debit of International balances by the applicable rate of interest, dividing by 360 and summing for each day.

Example for International Margin Interest Computation:

<u>Date</u>	<u>CAD Daily Debit Balance</u>	<u>FABLR-CAD</u>	<u>Applicable Interest Rate</u>	<u>Interest to be Charged</u>
June 17	\$ 0	5.3%	0.0%	\$ 0.00
June 18	\$90,000	5.2%	7.2%	\$18.00
June 19	\$120,000	5.2%	6.7%	\$22.33
June 20	<u>\$85,000</u>	5.1%	7.1%	<u>\$16.76</u>
Total for billing cycle				\$57.10

Total interest owed would be \$57.10 CAD.

Marking to Market

The credit balance in the Type 3-Short account will be decreased or increased in accordance with the corresponding market values of all short positions. Corresponding debits or credits will be posted to the Type 2-Margin account. These entries in the Type 2-Margin account will, of course, affect the balance on which interest is computed. Credits in your Type 3-Short account, other than marking to market, will not be used to offset your Type 2-Margin account balance for interest computation.

Payment for Order Flow

NFS/FBS transmits customer orders for execution to various exchanges or market centers based on a number of factors. These include: size of order, trading characteristics of the security, favorable execution prices (including the opportunity for price improvement), access to reliable market data, availability of efficient automated transaction processing and reduced execution costs through price concessions from the market centers. Certain of the market centers may execute orders at prices superior to the publicly quoted market in accordance with their rules or practices. While a customer may specify that an order be directed to a particular market center for execution,* the order-routing policies, taking into consideration all of the factors listed above, are designed to result in favorable transaction processing for customers.

NFS/FBS may receive remuneration, compensation or other consideration for directing customer orders for equity securities to particular Broker/Dealers or market centers for execution. Such consideration may take the form of financial credits, monetary payments or reciprocal business.

*Please note: Orders placed through any telephone, electronic, wireless or online trading systems cannot specify a particular market center for execution.

I understand that you may deliver margin calls and other notices to my Authorized agent(s)/Advisor(s) for the sole purpose of collection of my obligations under this Agreement. I agree to the foregoing and further understand that my Authorized agent(s)/Advisor(s) and/or FBS may act on behalf of NFS with respect to margin calls in its discretion.

Governing Law

THIS AGREEMENT AND ITS ENFORCEMENT SHALL BE GOVERNED BY THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS; SHALL COVER INDIVIDUALLY AND COLLECTIVELY ALL FIDELITY BROKERAGE ACCOUNTS WHERE APPROPRIATE THAT THE UNDERSIGNED MAY OPEN OR REOPEN WITH FIDELITY; SHALL INURE TO THE BENEFIT OF FIDELITY'S SUCCESSORS AND ASSIGNS, WHETHER BY MERGER, CONSOLIDATION OR OTHERWISE, AND FIDELITY MAY TRANSFER THE ACCOUNT OF THE UNDERSIGNED TO YOUR SUCCESSORS AND ASSIGNS, AND THIS AGREEMENT SHALL BE BINDING UPON THE HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS AND THE ASSIGNS OF THE UNDERSIGNED.

Pre-Dispute Arbitration Agreement

This agreement contains a pre-dispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

- (A) All parties to this agreement are giving up the right to sue each other in court, including the right to a trial by jury, except as provided by the rules of the arbitration forum in which a claim is filed.
- (B) Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- (C) The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.
- (D) The arbitrators do not have to explain the reason(s) for their award unless, in an eligible case, a joint request for an explained decision has been submitted by all parties to the panel at least 20 days prior to the first scheduled hearing date.
- (E) The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.
- (F) The rules of some arbitration forums may impose time limits for bringing a claim in arbitration. In some cases, a claim that is ineligible for arbitration may be brought in court.
- (G) The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this agreement.

All controversies that may arise between me, my Authorized agent/Advisor, and you, concerning any subject matter, issue or circumstance whatsoever (including, but not limited to, controversies concerning any account, order, distribution, rollover, advice interaction or transaction, or the continuation, performance, interpretation or breach of this or any other agreement between me, my Authorized agent, and you, whether entered into or arising before, on or after the date this account is opened) shall be determined by arbitration in accordance with the rules then prevailing of the Financial Industry Regulatory Authority (FINRA) or any United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member, as I may designate. If I designate the rules of a United States self-regulatory organization or United States securities exchange and those rules fail to be applied for any reason, then I shall designate the prevailing rules of any other United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member. If I do not notify you in writing of my designation within five (5) days after such failure or after I receive from you a written demand for arbitration, then I authorize you to make such designation on my behalf. The designation of the rules of a self-regulatory organization or securities exchange is not integral to the underlying agreement to arbitrate. I understand that judgment upon any arbitration award may be entered in any court of competent jurisdiction.

No person shall bring a putative or certified class action to arbitration, nor seek to enforce any pre-dispute arbitration agreement against any person who has initiated in court a putative class; or who is a member of a putative class action who has not opted out of the class with respect to any claims encompassed by the putative class action until: (i) the class certification is denied; or (ii) the class is decertified; or (iii) the customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this agreement except to the extent stated herein.

Margin Disclosure Statement

Important Information About Using Margin

Fidelity is furnishing this document to you to provide some basic information about purchasing securities in a margin account and to alert you to the risks involved with trading securities in a Margin Account. Before trading securities in a margin account, you should carefully review the margin terms in your account application and agreement. Not all securities are marginable and Fidelity reserves the right in its sole discretion to determine whether to extend margin on any securities. Please contact your investment advisor regarding any questions or concerns you may have with your margin accounts.

When you purchase securities, you may pay for the securities in full or you may borrow part of the purchase price from your brokerage firm. If you choose to borrow funds from your firm, you will open a margin account with Fidelity. The securities in your accounts are Fidelity's collateral for the loan to you. The actual amount you can borrow and Fidelity's margin maintenance requirements may vary depending on Fidelity's internal margin policies which exceed the margin requirements of FINRA and NYSE. Fidelity's margin policies are subject to review and revision at any time in Fidelity's sole discretion. Fidelity reserves the right to alter the terms on your margin loan at any time to comply with changes in Fidelity's policies. If the securities in your account decline in value, so does the value of the collateral supporting your loan, and, as a result, Fidelity can take action, such as issue a margin call and/or sell securities or other assets in any of your accounts held with Fidelity, or with certain of Fidelity's affiliates, in order to maintain the required equity in the account.

Risks of Borrowing on Margin

It is important that you fully understand the risks involved in trading securities on margin. These risks include the following:

- **You can lose more funds than you deposit in the margin account.** Fidelity uses internal methodologies to determine whether there is insufficient equity in your account. This valuation may differ from your valuation and may differ from the valuation that Fidelity is able to obtain if it sells these assets to meet a margin deficiency in your account. A decline in the value of securities you purchased on margin may require you to provide additional funds or margin-eligible securities to Fidelity to avoid the forced sale of any securities or assets in your account(s).
- **Fidelity can force the sale of securities or other assets in your account(s).** If the equity in your account falls below the maintenance margin requirements or Fidelity's higher "house" requirements, Fidelity can sell the securities or other assets in any of your accounts held at Fidelity, or with certain of Fidelity's affiliates, to cover the margin deficiency. You also will be responsible for any shortfall in the account after such a sale, possibly including Fidelity's costs related to collecting the shortfall. If you are a director, officer or 10% shareholder of an issuer whose securities Fidelity sells to cover a margin deficiency in your account, you could be liable to this issuer for profits from the forced sale, as compared with any purchases you may have made of securities of the same issuer within six months of the sale (note that you could receive such a profit even if a shortfall remains in the account after the sale).
- **Fidelity can sell your securities or other assets without contacting you.** Some investors mistakenly believe that a firm must contact them for a margin call to be valid, and that the firm cannot liquidate securities or other assets in their accounts to meet the call unless the firm has contacted them first. This is not the case. Most firms will attempt to notify their customers of margin calls, but they are not required to do so. In addition, even if a firm has contacted a customer and provided a specific date by which the customer can meet a margin call, the firm can still take necessary steps to protect its financial interests prior to that date, including immediately selling the securities without notice to the customer.
- **You are not entitled to choose which securities or other assets in your account(s) are liquidated or sold to meet a margin call.** Because the securities and any other assets in your account(s) are collateral for the margin loan, Fidelity has the right to decide which assets to sell in order to protect its interests.

Fidelity can increase its "house" maintenance margin

requirements at any time and is not required to provide you advance notice. These changes in firm policy often take effect immediately and may result in the issuance of a maintenance margin call. Your failure to satisfy the call may cause Fidelity to liquidate or sell securities or any other assets in your account(s). Fidelity may set account or security specific margin requirements on an individual basis and takes into consideration the following factors in determining margin maintenance requirements: (i) market volatility, which may include general market, issuer, industry and country conditions; (ii) the quality and composition of the securities in your account, including issuer capitalization and issuer, industry, liquidity and ownership concentrations; (iii) the quality and composition of your portfolio, including domestic and foreign exchange exposure, fixed-income exposure, frequency of activity in your account and liquidity of your account; (iv) Fidelity's ability generally to obtain financing for its margin loans; and (v) regulatory requirements and applicable law. Fidelity may place different weight on each of these factors, which may result in Fidelity determining, in its sole discretion, to immediately increase your margin maintenance requirement, which will require you to provide additional funds or securities to avoid the forced sale of assets in your account.

Fidelity's review of any of the factors described above may require you to provide additional funds or securities, in an amount determined by Fidelity in its sole discretion, to avoid the forced sale of those securities or other securities in your account.

- **You are not entitled to an extension of time on a margin call.** While an extension of time to meet margin requirements may be available to customers under certain conditions, a customer does not have a right to the extension.
- **Short selling is a margin account transaction and entails the same risks as described above.** Fidelity can buy in your account securities to cover a short position without contacting you, and may use all or any portion of the assets in your account to make such a purchase. If the assets in your account are not sufficient to cover the cost of such a purchase, you will be responsible for any shortfall, possibly including Fidelity's costs in collecting the shortfall.
- **Fidelity can loan securities held in your margin account which collateralize your margin borrowing.** In connection with the extension or maintenance of margin credit, Fidelity may loan securities in your margin account to itself or to others. As a result of these loans, you may not be entitled to receive certain benefits of a securities owner, such as the ability to exercise voting rights and/or receive interest, dividends, and/or other distributions with respect to the securities lent. While a security in your account is lent, you may only be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. Substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and you may incur additional tax liability for substitute payments that you receive. Fidelity may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, by means of a lottery allocation method. You are not entitled to any compensation in connection with securities lent from your account or for additional taxes you may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions.
- **In addition to market volatility, the use of bank card, check-writing and similar features with your margin account may increase the risk of a margin call.**
- **Fidelity may use certain securities in your account in connection with short sales and may receive compensation in connection therewith.**

Please contact your Authorized agent/Advisor or Fidelity to request additional information concerning Fidelity's margin policies or concerning questions you may have with your margin account.



Asset-Based Pricing Supplement

This supplement sets forth the terms and conditions for Asset-Based Pricing. Contact your Authorized agent(s)/Advisor(s) to determine if this supplement applies to your account.

This Fidelity Asset-Based Pricing Supplement ("Supplement") is part of my Client Agreement with Fidelity Brokerage Services LLC ("FBS") and National Financial Services LLC ("NFS") (together, "Fidelity"). Unless otherwise defined in this Supplement, defined terms have the same meaning as in my Client Agreement. In the event any provision in this Supplement conflicts or is inconsistent with any provision of my applicable Client Agreement, the provisions of this Supplement will control for matters related to me or my Authorized agent(s)/Advisor(s) having chosen Asset-Based Pricing ("ABP") for my Account(s). In the event that any provisions in this Supplement or my Client Agreement conflicts or is inconsistent with any provision of the Premiere Select IRA Custodial Agreement and Disclosure Statement, or Premiere Select Roth IRA Custodial Agreement and Disclosure Statement, as applicable, the provisions of the Premiere Select IRA (or Roth IRA) Custodial Agreement and Disclosure Statement will control. As noted in the Client Agreement, I have authorized my Authorized agent(s)/Advisor(s) to enter into such schedule of interest rates, commission rates and any other fee schedules for my accounts. Account(s) chosen for Asset-Based Pricing ("ABP Account(s)") will, subject to certain restrictions, receive FBS's customary securities brokerage services, as set forth in the Client Agreement, for an asset-based fee ("Asset-Based Fee" or "ABF") based on the value of certain assets in ABP Accounts, generally in lieu of paying commissions to FBS at the time of each transaction. See Paragraph 3 below for a description of other fees and charges not included in the ABF.

I understand that the ABF for each account is calculated and charged based only on the assets held in that account and does not take into consideration any other accounts or assets held at Fidelity.

1. Chargeable Assets. As used in this Supplement, "Chargeable Assets" mean:

- all assets in the account excluding the following assets which are defined as non-chargeable: cash and core sweep vehicles (including core money market funds), non-core Fidelity money market funds, no transaction fee (NTF) mutual funds, mutual funds with a load or sales charge, Fidelity mutual funds, alternative investments, Unit Investment Trusts (UITs), and international securities that settle and are held in local currency. Note that an international security that is held in USD will be charged an asset-based fee.

Fidelity may change the definition of Chargeable Assets anytime, and any change will be effective in the following billing period with notice to me and my Authorized agent(s)/Advisor(s). Changes in these definitions may affect the ABF rate I am charged. In the event an Asset is deemed at any time to be non-chargeable, I understand transaction fees shall apply.

2. Asset-Based Fee. I agree to pay FBS an ABF calculated by applying the ABF as it has been communicated to me by my Authorized agent(s)/Advisor(s) to the average daily balance of Chargeable Assets held in each ABP Account. I understand that I may be subject to a minimum fee per billing period. The fees shall be communicated to me by my Authorized agent(s)/Advisor(s). I authorize Fidelity to provide notice of my fees or any changes in my fees to my Authorized agent(s)/Advisor(s) and I will be bound by such notice. It is my responsibility to determine from my Authorized agent(s)/Advisor(s) the fees being charged. A copy of my fee schedule can be obtained from Fidelity upon request.

For each ABP Account, the ABF is calculated by applying the Annual Percentage Rate (measured by "basis points" or "BPS") to the average daily balance of the Chargeable Assets in each ABP Account (schedule may be dependent on turnover classification of my account). The ABF shall be charged in arrears based on the average daily balance of Chargeable Assets in the ABP Account for the billing period. FBS will calculate the ABF for each billing period by multiplying the average daily balance of Chargeable Assets for each month by the corresponding BPS (adjusted to a monthly amount by multiplying the annual percentage rate by the number of days in the month divided by 365 days (or, 366 days in the case of a leap year)

of the applicable schedule of my Authorized agent/Advisor. The ABF for the billing period will be the sum of the monthly amounts for the billing period. This shall be the ABF fee billed for the billing period unless the sum is less than the period's applicable minimum account fee ("Minimum Fee") described below. The ABF shall be charged to an account on or about the seventh day of the second month following the end of each billing period.

Accounts may be subject to a Minimum Fee to be billed by FBS on the same day as the ABF. The Minimum Fee does not apply when the ABP Account's ABF for the billing period exceeds the applicable Minimum Fee. The Minimum Fee charged will be reduced by the amount of the ABF charged to the ABP Account. Accounts may also be subject to an annual trade cap and excess trade fee payable to FBS applied to all trades in excess of the trade cap ("Trade Cap Fee"). The trade cap is based on the number of trades executed on all asset types and is calculated on an annual basis at the anniversary of the funding of the account or the establishment of the ABP on the account ("Anniversary Date"). Trade counting is done on a 12-month basis from the account's Anniversary Date. Certain assets may be excluded from the trade cap. For further details, contact your Authorized agent(s)/Advisor(s).

The ABF, Minimum Fee, and Trade Cap Fee may be changed by FBS in its discretion. I authorize Fidelity to provide notice of my fees or any changes in my fees to my Authorized agent(s)/Advisor(s) and I will be bound by such notice. It is my responsibility to determine from my Authorized agent(s)/Advisor(s) the fees being charged. The amounts charged for ABF or Minimum Fees, if applicable, will be shown on my account statement.

Payment of the ABF generally will be made first from free credit balances (from my core money market mutual fund, in the case of IRAs), next from the liquidation of shares of money market funds, and finally from the liquidation of any remaining securities or other property. Transfers into the ABP Account(s) of Chargeable Assets will be subject to the ABF or Minimum Fee, if applicable.

3. Other Fees and Charges. The ABF does not cover all fees and charges that apply to my ABP Accounts. The ABF does not cover brokerage costs associated with Non-Chargeable Assets held in my ABP Accounts or with securities and other property held outside my ABP Accounts. The ABF does not cover certain charges including but not limited to transfer taxes, regulatory and exchange fees electronic fund and wire transfer fees, storage, fabrication and delivery fees for precious metals, auction fees, debit balances, margin interest, certain odd-lot differentials, other charges imposed by law, charges imposed by custodians other than Fidelity, fees in connection with custodial, trustee and other services rendered by a Fidelity affiliate, certain fees in connection with trust accounting, or the establishment, administration, or termination of retirement or profit sharing plans, and fees for other products and services that Fidelity or its affiliates may offer. Customary brokerage costs will apply to purchases and sales of Non-Chargeable Assets in my ABP Account, and these charges may be applied on a per-trade basis. My ABP Account also may be subject to Supplemental Charges and Closing Fees (defined below).

a. Closing Fee. FBS may charge a fee ("Closing Fee") at the time of the termination of this Supplement or the closing of an ABP Account. This fee is in addition to any IRA termination/liquidation fees that may be applied.

b. Agency and Principal Trades. For agency transactions, I will pay FBS the ABF in lieu of the commission, if any, that otherwise would be charged on a per-trade basis. However, I understand that principal transactions will be effected by NFS at a net price reasonably related to the prevailing market price and will include a dealer spread (normally the difference between the bid and the offer price). The dealer spread will vary based on a number of factors such as the nature and liquidity of the security. I further understand that NFS generally will receive a markup, charged

directly to me at time of trade, as compensation for its services in executing principal trades because of the dealer spread or because of any gains resulting from changes in the prices of securities and other property held for NFS's own account before sale to, or after purchase from, me.

c. **Underwritten Offerings.** ABP fees will be applied to underwritten offerings of eligible individual equities and fixed income securities purchased or held in my ABP Accounts. Underwritten offerings generally will be purchased only at the public offering price, which includes sales compensation. FBS's affiliate, NFS, may receive a selling concession or other compensation which is part of the underwriting commission that is described generally in the relevant offering documents.

d. **Commissions and Other Charges of other Broker-Dealers.** The ABF does not cover commissions, commission equivalents, or other charges on transactions my Authorized agent(s)/Advisor(s) place with broker-dealers other than Fidelity that settle into or from my ABP Account. Any such charges will be separately charged to my ABP Account. ABP fees will be applied to Chargeable Assets in my ABP Account that are purchased or sold through other broker-dealers but custodied at Fidelity. I understand that my Authorized agent(s)/Advisor(s)' use of Fidelity's Prime Brokerage Services or other trade away programs will involve execution of transactions for my ABP Account by broker-dealers other than Fidelity, and that such transactions will be subject to additional fees charged by Fidelity for its Prime Brokerage Services or other trade-away program. Because I will be charged commissions, commission equivalents, dealer markups, markdowns, or other charges on transactions my Authorized agent(s)/Advisor(s) place with broker-dealers other than Fidelity – which will be in addition to the ABF I pay FBS under this Supplement – I recognize that my Authorized agent(s)/Advisor(s) could have an incentive to execute most transactions for settlement into my ABP Account through Fidelity. This incentive could, in some circumstances, conflict with my Authorized agent(s)/Advisor(s)' duties to obtain best execution of transactions for my ABP Account.

4. **Valuation of Chargeable Assets.** For purposes of determining the market value of the Chargeable Assets in my ABP Accounts, securities listed on a national securities exchange will be valued, as of the valuation date, at the closing price on the principal exchange on which they are traded, if available. Otherwise, securities and other property in my ABP Account will be valued in a manner determined by Fidelity in good faith to reflect their estimated fair market value. Fidelity may use prices obtained from third-party vendors. While Fidelity believes these sources to be reliable, Fidelity's valuation of Chargeable Assets for purposes of this Supplement should not be considered a guarantee of any kind whatsoever of the value of any assets in my ABP Accounts. The actual prices at which securities may be bought and sold may be different from those used for purposes of this Supplement. The ABF and other ABP fees will apply to short market positions in Chargeable Assets. Chargeable Assets purchased on margin are subject to the ABF and the market value of the Chargeable Assets will not be reduced by the amount of any margin indebtedness or increased by the amount of any credits. I understand that margin is not available on my Premiere Select IRAs (or Premiere Select Roth IRAs).

5. **Acknowledgements.** I understand and agree that:

a. **Special Considerations.** I have determined in consultation with my Authorized agent(s)/Advisor(s) that participation in this ABP arrangement ("ABP Arrangement") is suitable and appropriate for me. **ABP Arrangements are not right for everyone.** In deciding whether this arrangement is appropriate, I have carefully considered, in consultation with my Authorized agent(s)/Advisor(s), all relevant factors, including my past and anticipated trading practices and holdings of Chargeable Assets, my Authorized agent(s)/Advisor(s)' investment strategies and trading patterns (including the frequency of trading and the number and size of the transactions that my Authorized agent(s)/Advisor(s) order for my ABP Accounts), the costs and potential benefits of this arrangement as compared to paying commissions to FBS on a per-trade basis, and my investment objectives and goals. I understand that, depending on the circumstances, the brokerage and execution

services offered through this arrangement would be available for less money if I paid commissions and execution costs on a per-trade basis. I have also considered whether this arrangement is appropriate if I primarily intend to hold the types of Chargeable Assets or engage in the trading strategies described below:

- "Buy and Hold" Investors. This arrangement is designed for investors who trade with some regularity and may not be appropriate if I do not intend to trade or intend to make only a small number of trades. It may not be appropriate for me to include in my ABP Account existing securities or other property that I intend to hold for a long time.
- Short-Term Trading Activity. ABP Accounts are not intended for day trading (i.e., the practice of purchasing and selling or selling and purchasing the same positions in one trading day) or other short-term or excessive trading activity, including excessive options trading. If I engage in trading activities Fidelity views as excessive, I may be subject to additional charges and/or FBS may restrict my ABP Account and/or convert it to a transaction-based account which shall effectively terminate this Supplement.
- Prior Commission Payments. I may transfer Chargeable Assets on which I have previously paid a commission or similar fee on a per-trade basis into my ABP Account. The ABF will be applied to these transferred securities even though a commission or other similar fee has previously been charged, and I will consider whether it is appropriate to transfer such securities and other property into my ABP Account.

b. **Arrangement Is Appropriate for Me.** I acknowledge that Fidelity has not recommended participation in this ABP Arrangement. I agree that Fidelity is not responsible for determining whether participation in this ABP Arrangement remains suitable or appropriate for me. Rather, such determination is solely mine and my Authorized agent(s)/Advisor(s)' responsibility. Because the relevant factors bearing on the appropriateness of my participation in this ABP Arrangement may change over time, I will periodically reevaluate, in consultation with my Authorized agent(s)/Advisor(s), whether continued enrollment in this ABP Arrangement remains suitable and appropriate for me. I acknowledge that I have been given notice of all fees and other charges related to my having chosen ABP for my managed accounts. I further represent that all such fees are reasonable in light of the services being provided to me.

c. **No Investment Advice.** This ABP Arrangement is a pricing alternative, not an investment advisory service. My ABP Account is a brokerage account in which, subject to certain restrictions and except as otherwise specified herein, Fidelity provides securities brokerage services on a non-discretionary basis for an ABF. Any information or assistance Fidelity provides to me in this ABP Arrangement is solely incidental to Fidelity's business as a broker-dealer and is customarily provided or available without charge where brokerage charges are paid on a per-trade basis. Neither Fidelity nor any of its employees is acting or will act as an "investment adviser" as defined in the Investment Advisers Act of 1940 ("Advisers Act") with respect to my ABP Account. The Advisers Act will not apply to the relationship between me and Fidelity (including its employees) with respect to my ABP Account. Fidelity is not an "investment manager" and does not provide investment advice within the meaning of the Employee Retirement Income Security Act of 1974 as a result of the services provided under this Supplement, and Fidelity does not, nor will it, render advice or any other services.

d. **Payments to Affiliates; Multiple Layers of Fees.** Fidelity, its affiliates and employees may receive additional compensation in connection with specific types of Chargeable Assets as described in the Supplement. These Chargeable Assets will also be included for purposes of calculating the ABP fees. This may result in me paying multiple layers of fees on certain Chargeable Assets.

e. **Limitation of Liability; Risk Acknowledgement.** All investments involve risk, and certain types of investments involve substantially more risk than others. I (or my Authorized agent(s)/Advisor(s)) will select investments for my ABP Account, and neither Fidelity nor any of its affiliates or employees will have any discretionary authority or control over my ABP Account. Fidelity, its affiliates, and employees will execute transactions for my ABP Account only as specifically instructed by me or my Authorized agent/Advisor or other authorized representative. I am responsible for any trades placed in my ABP Account and for all losses arising from or related to my ABP Account.

f. **Tax Considerations.** The ABF paid in connection with my ABP Account may be considered by the Internal Revenue Service as an investment expense, rather than a transaction charge, which may result in less favorable tax treatment for me. If I sell or redeem Chargeable Assets, including as part of a transfer described in paragraph 5, that sale or redemption of Chargeable Assets may result in adverse tax consequences. Notwithstanding anything herein to the contrary, I understand that distributions from IRAs are subject to ordinary income tax and a possible 10% penalty if I am under age 59½. I understand that Fidelity does not, and will not, offer tax advice and I am encouraged to consult a tax advisor or other qualified professional.

6. **Duration and Termination.** I agree that, even though I have signed the Client Agreement and agreed to this Supplement, Fidelity may refrain from providing the services described in this Supplement until all of Fidelity's internal procedures for establishing ABP Accounts have been completed and any necessary internal approvals have been obtained. This Supplement will become effective when accepted

by Fidelity. Either party may terminate the Supplement at any time. Fidelity will accept verbal termination instructions from me directly or my Authorized agent(s)/Advisor(s). In the event of the termination of an ABP Account, this Supplement will terminate with respect to such account, but will remain in full force and effect as to any remaining ABP Accounts. Termination of this Supplement will not result in termination of the Client Agreement, the terms and conditions of which will continue to remain in full force and effect and the Client Account will be subject to transaction-based pricing which shall be communicated to me by my Authorized agent(s)/Advisor(s). In the case of any termination by me, the "Termination Date" is the last business day of the quarter in which my notice is received by Fidelity. In the case of any termination by Fidelity, the "Termination Date" is the date on which any such notice is sent by Fidelity to me. Termination of this Supplement or any particular ABP Account will not affect or preclude the consummation of any trade initiated, or any liability or obligation arising before the Termination Date, including payment of any outstanding fees.

7. **Amendments.** Fidelity may amend this Supplement on written notice to my Authorized agent(s)/Advisor(s) or me and any amendment will be effective as of the date specified by Fidelity.

The following applies only to accounts established in the Managed Account Solutions (formerly Managed Account Resources Platform ("MAS Platform")): Be advised that the billing period and householding features are unique for this platform. The MAS Platform will bill your ABP fees at the beginning of the quarter on or about the fifteenth day of the quarter. The ABP fees will be determined by applying the BPS to your account(s) previous quarter ending account balance. Within the MAS Platform, any accounts in each of the MAS Programs will be household for purposes of calculating and billing the ABF.



Important Information about Electronic Funds Transfer

This document provides important information regarding electronic funds transfers performed via the Automated Clearing House network, including transfers initiated by me or my Authorized agent(s)/Advisor(s). Such transfers are governed by Regulation E, as issued by the Bureau of Consumer Financial Protection pursuant to the Electronic Fund Transfer Act, and other related laws and regulations. This information is provided to me in compliance with these rules and regulations. Similar information regarding transfers initiated using a debit card will be sent to me separately with my debit card.

Privacy Statement

I understand Fidelity Brokerage Services LLC (Fidelity) will disclose information to third parties about my account or the transfers I or my Authorized agent(s)/Advisor(s) make:

- (i) Where it is necessary for completing transfers, or
- (ii) In order to verify the existence and condition of my account for a third party, such as a credit bureau or merchant, or
- (iii) In order to comply with a government agency or court order, or
- (iv) For my Authorized agent(s)/Advisor(s) give Fidelity written permission, or
- (v) For other purposes in accordance with Fidelity's privacy statement

Redemptions

The minimum Electronic Funds Transfer (EFT) transaction initiated on Fidelity.com is \$10 for redemptions and deposits, and the maximum is \$100,000 for redemptions.

Fees

There is no fee to transfer funds electronically, although my financial institution may charge transaction fees.

EFT Transactions Initiated on Fidelity.com

If I establish EFT on Fidelity.com, I or my Authorized agent(s)/Advisor(s) may be able to immediately transfer funds from my bank account to my Fidelity Brokerage Account ("Immediate Funding EFT"). All Immediate Funding EFTs processed during the first seven (7) business days after I or my Authorized agent(s)/Advisor(s) establish EFT on Fidelity.com, will be limited to a maximum transaction amount of \$25,000 per day for customers with an existing relationship; for new customers, the maximum transaction amount is \$15,000 per day. On the eighth business day following my or my Authorized agent(s)/Advisor(s)' request, the maximum transaction amount for EFTs initiated on Fidelity.com will increase to \$100,000 per day. Transfers from my Fidelity Brokerage Account to my bank account will not be allowed until the eighth business day.

EFT Transactions Initiated by my Authorized agent(s)/Advisor(s)

There are no minimums or maximums for EFT transactions initiated by my Authorized agent/Advisor on my behalf. However, Fidelity reserves the right, but is not obligated, to confirm with me any of my Authorized agent(s)/Advisor(s)' instructions prior to acting upon such instructions.

Brokerage Account Minimum Balances

There is no minimum account balance to process an EFT transaction; however, my core account must have adequate funds to cover the redemption of funds.

Business Days

For purposes of these disclosures, Fidelity's business days are Monday through Friday. Bank and New York Stock Exchange holidays are not included.

Documentation Periodic Statement

I will receive a monthly account statement from Fidelity. If there is no activity in my account, I can receive my statement quarterly if elected.

Direct Deposits

If I have arranged to have direct deposits made to my Fidelity Brokerage Account at least once every sixty (60) days from the same person or company, I can call Fidelity at 800-343-3548 to find out whether or not the deposit has been made.

Special Disclosure for Covered Transfers

In general, my use of the EFT service for transfer of funds electronically other than those for which the primary purpose is the purchase or sale of securities ("Covered Transfers") is covered under the Electronic Funds Transfer Act and the Bureau of Consumer Financial Protection's Regulation E and related laws and regulations. The following terms and disclosures apply to Covered Transfers:

Unauthorized Transfers:

I will tell Fidelity promptly if I believe my PIN to authorize an EFT has been lost or stolen or may have been used without my permission. Telephoning Fidelity at the number listed below is the best way of keeping my possible losses down. If I believe my PIN has been lost or stolen, and I tell Fidelity within two (2) business days after I learn of the loss or theft, I can lose no more than \$50 for transfers if someone used my PIN without my permission. If I do NOT tell Fidelity within two (2) business days after I learn of the loss or theft of my PIN, and Fidelity can prove Fidelity could have prevented any unauthorized use if I had told Fidelity, I could lose as much as \$500. Also, if my statement shows transfers that I or my Authorized agent(s)/Advisor(s) did not make, I will tell Fidelity promptly. If I do not tell Fidelity within sixty (60) days after the first statement was mailed to me, I may not get back any money I lost after sixty (60) days if Fidelity can prove that Fidelity could have stopped someone from taking the money if I had told Fidelity in time. In extenuating circumstances Fidelity may extend such time periods. Additional protection may be available from Fidelity for specific accounts under certain circumstances.

Stop Payment Procedures. If I or my Authorized agent(s)/Advisor(s) have told Fidelity in advance to make regular transfers out of my Fidelity Brokerage Account, I can stop any of these payments. Here's how: I can call or write to Fidelity using the Contact Information listed below. My notice must be made in time for Fidelity to receive my request at least three (3) business days or more before the payment is scheduled to be made. If I call, Fidelity may, as an additional measure, require me to put my request in writing and get it to Fidelity within fourteen (14) days after I call. Unless otherwise provided, I may not stop payment of electronic funds transfers; therefore I should not employ electronic access for purchases or services unless I am satisfied that I will not need to stop payment.

Fidelity's Liability for Failure to Complete a Transfer. If Fidelity does not complete a Covered Transfer to or from my Fidelity Brokerage Account on time or in the correct amount, according to Fidelity's agreement with me, Fidelity may reimburse me for my losses or damages. However, there are some exceptions. Fidelity will not be liable for instance:

- If, through no fault of Fidelity's, I do not have enough money in my Fidelity Brokerage Account to make the Covered Transfer.
- If the money in my Fidelity Brokerage Account is subject to legal process or other claim restricting such transfer.
- If the transfer would exceed my margin availability, if any.
- If the bank account information I or my Authorized agent(s)/Advisor(s) provided to Fidelity when I or my Authorized agent(s)/Advisor(s) established EFT was incorrect or has subsequently become incorrect.

- If circumstances beyond Fidelity's control (such as fire or flood) prevent the transaction, despite reasonable precautions taken by Fidelity.
- If there was a technical malfunction that was known to me at the time I or my Authorized agent(s)/Advisor(s) attempted to initiate a Covered Transfer or, in the case of a preauthorized Covered Transfer, at the time the transfer should have occurred.

There may be other exceptions stated in Fidelity's agreement with me.

Error Resolution. In the case of errors or questions about my Covered Transfers, I will call or write Fidelity using the contact information listed below. I will call or write Fidelity promptly if I think my statement is wrong or if I need more information about a Covered Transfer on the statement.

Fidelity must hear from me no later than 60 days after Fidelity sent the FIRST statement on which the problem or error appeared.

I will:

- Tell Fidelity my name and account number.
- Describe the error or the Covered Transfer that I am unsure about, and explain as clearly as I can why I believe it is an error or why I need more information.
- Tell Fidelity the dollar amount of the suspected error.

If I notify Fidelity verbally, Fidelity may require that I send my complaint or question in writing within ten (10) business days. Fidelity will tell me the results of its investigation within ten (10) business days after Fidelity hears from me and will correct any error promptly. If Fidelity needs more time, however, Fidelity may take up to forty-five (45) days to investigate my complaint or question. If Fidelity decides to do this, Fidelity will credit my account within ten (10) business days for the amount that I think is in error, so that I will have the use of the money during the time it takes Fidelity to complete its investigation. If Fidelity asks me to put my request or question in writing and does not receive it within ten (10) business days, or if my account is a brokerage account subject to Regulation T of the Board of Governors of the Federal Reserve System (Credit By Brokers and Dealers, 12 CFR 220), Fidelity may not credit my account. If Fidelity decides that there was no error, Fidelity will send me a written explanation within three (3) business days after Fidelity finishes the investigation. I may ask for copies of the documents that Fidelity used in the investigation.

Fidelity Contact Information

By Mail: Fidelity Investments
P.O. Box 770001
Cincinnati, OH 45277-0045
By Phone: 800-343-3548



Trade-Away Securities Transactions Supplement

To: Account Owner(s) ("I")

From: Fidelity Brokerage Services LLC and National Financial Services, LLC (collectively, "Fidelity")

Pursuant to the terms of my Client Agreement I have authorized Fidelity to accept any trading, servicing or account related instruction from my Authorized Agent(s)/Advisor(s), including authorizing my Authorized agent(s)/Advisor(s) to execute securities transaction directly with broker dealers that are not affiliated with Fidelity, including both domestic and foreign executing brokers ("Executing Brokers"). My Authorized agent (s)/Advisor(s) have indicated to Fidelity my Authorized agent(s)/Advisor(s) may engage in executing securities transactions with Executing Brokers. This notice is a supplement to my Brokerage Account Client Agreement and provides the details of the terms and conditions for Fidelity's role in securities transactions my authorized agent(s)/Advisor(s) execute with Executing Brokers. Defined terms have the same meaning as in my Client Agreement. I have read this information carefully and have contacted my Authorized agent(s)/Advisor(s) with any questions.

The terms of my Client Agreement authorize and direct Fidelity to accept any trading, servicing, account-related, or other instruction of my Authorized agent (s)/Advisor(s) on my behalf. This includes the execution of trade away securities transactions ("Trade Away Transactions") directly through Executing Brokers. If my Authorized agent(s)/Advisor(s) execute Trade Away Transactions directly through Executing Brokers, I understand that I and my Authorized agent(s)/Advisor(s) are solely responsible for the selection of any Executing Brokers. Fidelity will have no obligation to select, monitor or supervise the Executing Brokers.

The Executing Broker will be entirely responsible for the execution and clearance of Trade Away Transactions executed on my behalf. Fidelity, as custodian of my account, will act solely as settlement agent and will have no other responsibility whatsoever with regard to any Trade Away Transactions. Fidelity's duties in this regard will be further conditioned on Fidelity having custody of or receiving the subject securities or other property (including cash) in good deliverable form before settlement. I understand that Fidelity has the right to cancel any Trade Away Transaction if Fidelity does not receive subject securities or other property, including cash to settle the Trade Away Transaction by settlement date.

To facilitate settlement on my behalf, Fidelity may book Trade Away Transactions through its systems in a manner that makes them appear as though they are "buys" and "sells," and may reflect this activity as a "trade" on standardized communications, including but not limited to periodic account statements and trade confirmations. I understand that, notwithstanding the presentation of this information on communications I receive from you, Fidelity is acting solely as settlement agent connection – Trade Away Transactions.

I understand that I may be subject to additional trade-away fees for Trade Away Transactions executed by Executed Brokers and my Authorized agent(s)/Advisor(s) have informed me of the trade-away fees that may apply to my account and I agree to be bound thereby.

I understand that securities positions that are not in the possession or control of Fidelity are not covered by the SIPC protection or any additional insurance secured by Fidelity that covers positions held in my Fidelity brokerage account.

I understand that Fidelity may limit or restrict the number or volume of Trade Away Transactions in my account. I also understand that I may be required to maintain minimum net equity levels in my Fidelity brokerage account. I understand that any such limitations or requirements will be communicated to me on an initial and ongoing basis through my Authorized agent/Advisor.

I acknowledge that direct investments in foreign markets involve various investment risks, including foreign exchange risk (the possibility that foreign currency will fluctuate in value against the U.S. dollar), increased volatility as compared to the U.S. markets, political, economic and social events that may influence foreign markets or affect the prices of foreign securities, lack of liquidity (foreign markets may have lower trading volumes and fewer listed companies, shorter trading hours and restrictions on the types of securities that foreign investors may buy and sell) and less access to information about foreign companies. Emerging markets, in particular, can be subject to greater social, economic, regulatory, and political uncertainties and can be extremely volatile. Foreign securities trading also may be subject to various credit, settlement, operational, financial and legal risks that may affect the ability of my Authorized agent(s)/Advisor(s) to engage in foreign securities transactions on my behalf and may make it more costly to access foreign markets. These risks include:

- **Physical Markets.** Certain markets may have less regulated or less liquid securities markets. In addition, some countries still rely on physical markets that require delivery of properly endorsed share certificates to effect trades. As a result, the settlement process can be lengthy (and erratic in some markets) and carry an increased risk of fails.
- **Misidentification of Securities.** Foreign companies may have multiple classes of securities, including "foreign" and "local" shares. Inadequate understanding of a foreign company's capital structure or imprecision in placing orders with Foreign Executing Brokers can result in my Authorized agent(s)/Advisor(s) purchasing the wrong securities.
- **Non-DVP Transactions.** Local trading and settlement customs frequently require non-DVP ("delivery versus payment") transactions. Unlike DVP transactions, which involve a simultaneous exchange of securities and payment, non-DVP transactions can increase counterparty risk because the purchaser pays before securities are delivered or the seller delivers securities before payment is made.
- **Trading Days and Hours.** Differences in trading days and hours can also create operational issues and complicate clearance and settlement.
- **Cross-Border Settlement.** Cross-border settlement involves the interaction of different settlement systems and differing (and potentially inconsistent) laws in each of the affected countries.
- **Trading Restrictions and Market Operations.** Foreign markets often operate differently from U.S. markets. For example, there may different periods for clearance and settlement of securities transactions and investments in foreign securities may be subject to local market trading restrictions.
- **Limited Recourse under Local Law.** A U.S. investor may not be able to sue a foreign issuer or a Foreign Executing Broker or to enforce a judgment in U.S. courts. The only available remedy may be the legal remedies that are available under foreign law, and those remedies may be limited.

I agree to indemnify and hold harmless Fidelity, its affiliates and their respective officers, directors, employees and agents from and against any and all losses, claims or financial obligations ("Losses") that may arise from any act or omission of my Authorized agent(s)/Advisor(s) with respect to my account, including Losses arising out of or relating to Trade Away Transactions that my Authorized agent(s)/Advisor(s) may execute directly with Executing Brokers.



Notice of Business Continuity Plans

Fidelity Brokerage Services LLC and National Financial Services LLC

December 2014

Fidelity Brokerage Services LLC ("FBS") and National Financial Services LLC ("NFS") are committed to providing continuous customer service and support; however, we recognize that there are potential risks that could disrupt our ability to serve you. We are confident that we have taken the necessary steps that will allow us to reduce or eliminate the impact of a business disruption.


FBS and NFS recognize the responsibility we have to our customers. We have implemented a business continuity management program with a strong governance model and commitment from senior management. Our continuity program's primary objectives are to meet the needs of our customers, maintain the well-being and safety of our employees and meet our regulatory obligations. The planning process is risk based and involves the understanding and prioritization of critical operations across the firm, the anticipation of probable threats, and the proactive development of strategies to mitigate the impact of those events.

Our continuity planning teams work closely with local governments and officials in the event of an outage impacting our operations. Additionally, FBS and NFS have identified three large-scale scenarios that require particular focus: pandemics, events impacting stock and bond market operations, and cyber events. Detailed response plans have been developed and cross-discipline teams have been trained to address day-to-day disruptions as well as these specific events.

All FBS and NFS departments have developed the capability to recover both operations and systems. All continuity plans are designed to account for disruptions of various lengths and scopes, and to ensure that critical functions are recovered to meet their business objectives. Critical business groups operate from multiple sites. Dedicated teams within our technology organizations ensure that critical applications and data have sufficient redundancy and availability to minimize the impact of an event. Key components of FBS's and NFS's continuity and technology recovery plans include:

- Alternate physical locations and preparedness
- Alternative means to communicate with our customers
- Back-up telecommunications and systems
- Employee safety programs

Plans are tested regularly to ensure they are effective should an actual event occur. FBS's and NFS's Business Continuity Plans are reviewed no less than annually to ensure that the appropriate updates are made to account for operations, technology, and regulatory changes. To obtain a copy of this notice at any time, contact NFS directly.

FACTS	What do Fidelity Investments and the Fidelity Funds do with your personal information?		
WHY?	Financial companies choose how they share your personal information. Federal law gives consumers the right to limit some but not all sharing. Federal law also requires us to tell you how we collect, share, and protect your personal information. Please read this notice carefully to understand what we do.		
WHAT?	<p>The types of personal information we collect and share depend on the product or service you have with us. This information can include:</p> <ul style="list-style-type: none">■ Social Security number and employment information■ assets and income■ account balances and transaction history <p>When you are <i>no longer</i> our customer, we continue to share your information as described in this notice.</p>		
HOW?	All financial companies need to share customers’ personal information to run their everyday business. In the section below, we list the reasons financial companies can share their customers’ personal information, the reasons Fidelity Investments and the Fidelity Funds (hereinafter referred to as “Fidelity”) choose to share, and whether you can limit this sharing.		
REASONS WE CAN SHARE YOUR PERSONAL INFORMATION		DOES FIDELITY SHARE?	CAN YOU LIMIT THIS SHARING?
For our everyday business purposes — such as to process your transactions, maintain your account(s), respond to court orders and legal investigations, or report to credit bureaus		Yes	No
For our marketing purposes — to offer our products and services to you		Yes	No
For joint marketing with other financial companies		No	We don’t share
For our affiliates’ everyday business purposes — information about your transactions and experiences		Yes	No
For our affiliates’ everyday business purposes — information about your creditworthiness		No	We don’t share
For nonaffiliates to market to you		No	We don’t share
QUESTIONS?		Call 800.343.3548. If we serve you through an investment professional, please contact them directly. Specific Internet addresses, mailing addresses, and telephone numbers are listed on your statements and other correspondence.	

WHO WE ARE	
Who is providing this notice?	Companies owned by Fidelity Investments and using the Fidelity name to provide financial services to customers, and the Fidelity Funds. A list of companies is located at the end of this notice.
WHAT WE DO	
How does Fidelity protect my personal information?	To protect your personal information from unauthorized access and use, we use security measures that comply with federal law. These measures include computer safeguards and secured files and buildings.
How does Fidelity collect my personal information?	<p>We collect your personal information, for example, when you</p> <ul style="list-style-type: none"> ■ open an account or direct us to buy/sell your securities ■ provide account information or give us your contact information ■ tell us about your investment portfolio <p>We also collect your personal information from others, such as credit bureaus, affiliates, or other companies.</p>
Why can't I limit all sharing?	<p>Federal law gives you the right to limit only</p> <ul style="list-style-type: none"> ■ sharing for affiliates' everyday business purposes—information about your creditworthiness ■ affiliates from using certain information to market to you ■ sharing for nonaffiliates to market to you <p>State laws and individual companies may give you additional rights to limit sharing.</p>
DEFINITIONS	
Affiliates	<p>Companies related by common ownership or control. They can be financial and nonfinancial companies.</p> <ul style="list-style-type: none"> ■ Fidelity Investments affiliates include companies with the Fidelity name (excluding the Fidelity Funds), as listed below, and other financial companies such as National Financial Services LLC, Strategic Advisers LLC, and FIAM LLC.
Nonaffiliates	<p>Companies not related by common ownership or control. They can be financial and nonfinancial companies.</p> <ul style="list-style-type: none"> ■ Fidelity does not share with nonaffiliates so they can market to you.
Joint marketing	<p>A formal agreement between nonaffiliated financial companies that together market financial products or services to you.</p> <ul style="list-style-type: none"> ■ Fidelity doesn't jointly market.
OTHER IMPORTANT INFORMATION	
<p>If you transact business through Fidelity Investments life insurance companies, we may validate and obtain information about you from an insurance support organization. The insurance support organization may further share your information with other insurers, as permitted by law. We may share medical information about you to learn if you qualify for coverage, to process claims, to prevent fraud, or otherwise at your direction, as permitted by law. You are entitled to receive, upon written request, a record of any disclosures of your medical record information. Please refer to your statements and other correspondence for mailing addresses.</p> <p>If you establish an account in connection with your employer, your employer may request and receive certain information relevant to the administration of employee accounts.</p> <p>If you interact with Fidelity Investments directly as an individual investor (including joint account holders), we may exchange certain information about you with Fidelity Investments financial services affiliates, such as our brokerage and insurance companies, for their use in marketing products and services, as allowable by law. Information collected from investment professionals' customers is not shared with Fidelity Investments affiliates for marketing purposes, except with your consent and as allowed by law.</p> <p>The Fidelity Funds have entered into a number of arrangements with Fidelity Investments companies to provide for investment management, distribution, and servicing of the Funds. The Fidelity Funds do not share personal information about you with other entities for any reason, except for everyday business purposes in order to service your account.</p> <p>For additional information, please visit Fidelity.com.</p>	
WHO IS PROVIDING THIS NOTICE?	
Fidelity Investments companies: Fidelity Brokerage Services LLC; Fidelity Distributors Company LLC; Fidelity Investments Institutional Operations Company LLC; Fidelity Management Trust Company; Fidelity Personal Trust Company, FSB; Fidelity Personal and Workplace Advisors LLC; Fidelity Investments Life Insurance Company; Empire Fidelity Investments Life Insurance Company®; Fidelity Insurance Agency, Inc.; National Financial Services LLC; Fidelity Wealth Technologies LLC; Strategic Advisers LLC; Fidelity Institutional Wealth Adviser LLC; FIAM LLC; Fidelity Health Insurance Services, LLC; and the Fidelity Funds, which include funds advised by Strategic Advisers LLC.	